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ABSTRACT

The operation of the U.S. Army's Reserve Components (RC) school system was assessed. Three areas were identified that were fundamental to the system where organizational changes could make a difference. First, the project assessed training requirements and school delivery of courses. In serving a sizable training requirement for reclassification training, the RC school system faced two main problems: the system lacked the capacity to provide places for all soldiers needing training and about one-third of the quotas allocated went unused. These problems and the backlog of soldiers needing noncommissioned officer training arose from both capacity constraints and an inability to efficiently use existing capacity. Second, three main areas related to training quality were assessed: presence of correct and up-to-date training courseware, qualified instructors, and appropriate support at training sites. Results indicated more problems with courseware than with the other elements. Training materials were received too late and in quantities insufficient for class size. Third, the project assessed training resources and costs. Results suggested that Reserve Component Training Institutions (RCTIs) may need to move toward becoming larger and more specialized, with more fixed sites and organic assets and with repeated courses with more predictable student loads. Although increased consolidation and specialization should help, achieving further efficiencies would require new school organizations and improved resource planning and management systems. (Contains 14 references.) (YLB)

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# Assessing the Performance of the Army Reserve Components School System

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# PREFACE

The U.S. Army is launching a series of initiatives to streamline and consolidate its extensive system of schools, including institutions that serve both the active and reserve forces. The eventual aim is to develop a Total Army School System (TASS) that would be more efficient and integrated across the Active Component (AC) and the Army's two Reserve Components (RC), which include the Army National Guard (ARNG) and the U.S. Army Reserve (USAR).

Prominent among these initiatives is a prototype regional school system the Army is establishing and testing in the southeastern region of the United States during fiscal years 1994 and 1995. This report provides a baseline description of the RC training system and an outline of how the prototype may affect the range of problems described by the data. It provides a starting point for assessing school system performance and observing how this changes in response to restructuring initiatives. The results should be of interest to policymakers and analysts concerned with defense manpower and training.

The research was sponsored by the Deputy Commanding General, U.S. Army Training and Doctrine Command, and was conducted in the Arroyo Center's Manpower and Training Program. The Arroyo Center is a federally funded research and development center sponsored by the United States Army.

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# SUMMARY

## INTRODUCTION

For some time, the U.S. Army has recognized persistent problems in its extensive system of schools that provide technical and leadership training for the Reserve Components (RC). Critics have suggested, for example, that the existing system of schools lacks efficiency, provides inconsistent quality of training, and is difficult to manage to meet the training needs of RC units (see, for example, DAIG (1993)). To respond to these concerns, the Army began a test (starting in FY94) of a "prototype" regional school system in the southeastern United States. This prototype set out to achieve immediate consolidations of training facilities and improvements in training standards. The prototype sought to improve efficiency by organizing training on a regional basis and by changing schools' missions from multifunctional (providing a variety of training courses) to specialized (limiting training to selected courses). The prototype also aimed to lay a foundation for a longer-term goal—to establish a cohesive and efficient Total Army School System (TASS) of fully accredited and integrated schools to serve all Army components.

Given the magnitude of change envisioned for the TASS, RAND's Arroyo Center was asked to conduct an independent, objective assessment of the operation of the RC school system, including the TASS concept. This report provides a baseline description of the RC training system in terms of three key assessment areas:

- Training requirements and school delivery of courses;

- Quality of training;
- Resources and costs.

Our purpose is to quantify conditions and problems in the RC school system during FY94. Because the system is so fragmented, it has been difficult in the past to gain a full, top-down view of its operations. This assessment aims to provide such a view and thus to help commanders and managers focus future efforts and adjust the prototype school system as it evolves.

## ASSESSMENT OF TRAINING REQUIREMENTS AND SCHOOL DELIVERY OF COURSES

The first piece of the analysis dealt with the extent to which Reserve Component Training Institutions (RCTIs) are successful at meeting units' training requirements. To do so, the system must identify personnel who require training and then schedule and conduct courses to produce the desired number and types of graduates. We considered both reclassification training, which allows soldiers who have changed jobs to become qualified in their new duty military occupational specialty (MOS), and noncommissioned officer (NCO) education, which prepares individuals for leadership.[1]

### Reclassification Training

Our data from FY94 show a sizable training requirement for reclassification training: over 85,000 RC soldiers (16 percent of all assigned personnel) needed training to become qualified for their duty MOS.[2] About half of soldiers requiring reclassification training were serving in enlisted leadership positions (duty skills levels [DSLs] 2 through 5).

In serving this requirement, the RC school system faces two main problems. First, the system lacks the capacity to provide school seats for all soldiers needing training. In FY94, seat quotas allocated to the RCTIs represented only about 37 percent of the requirement. Sec-

[1]The project did not address officer education.

[2]An additional 11 percent of RC soldiers were new entrants who needed initial entry training (IET), which occurs in AC schools and not in RCTIs.

ond, about one-third of the quotas allocated went unused during the year (primarily because some classes and quotas were canceled and because reservations were not made to fill all available seats). Thus, available training was not utilized as efficiently as it might have been. Overall, compared with the 85,000 personnel requiring training, the system graduated about 20,000 students (23 percent of the requirement).

### NCO Training

The system is sending most of the soldiers who will be promoted to leadership positions to required NCO courses. For example, in FY94, about 19,000 soldiers in the RC were promoted from grades E-4 through E-6 to the next-higher grade. Of this group, about half completed the NCO course for their new grade during FY93. About 10,000 NCOs remained to be trained in FY94.

However, we also found a large "backlog" of E-5s through E-7s needing NCO education: About 94,500 soldiers had been promoted to grades E-5 to E-7 without fully completing the requisite NCO schooling. The current RCTI school training capacity cannot keep up with this large requirement. In FY94, for example, the system had quotas for only 44 percent of the total requirement for those needing NCO courses,[3] and it produced graduates for only 28 percent of the total requirement. Again, the shortfall arose from both capacity constraints and an inability to efficiently utilize existing capacity.

## ASSESSMENT OF TRAINING QUALITY

We assessed three main areas related to the quality of training: the presence of correct and up-to-date training courseware; qualified instructors; and appropriate support on hand at training sites (e.g., equipment, ammunition, and facilities). Our data on quality were derived primarily from special questionnaires given to RCTI administrators and instructors, but we also drew on questionnaires given to

[3]The Primary Leadership Development Course (PLDC) and Phase 2 of the Basic NCO Course (BNCOC) or Advanced NCO Course (ANCOC).

students and on our own visits to numerous schools and training courses.

The results indicate more problems with courseware than with the other elements of quality. RCTI administrators and instructors commonly reported that they received training materials too late and in quantities insufficient for the class size. For example, 38 percent of instructors cited incomplete course materials as detrimental to their FY94 courses. They also frequently criticized courseware and supporting materials (e.g., tests) as outdated and inadequate; for instance, 41 percent of RCTI administrators and 25 percent of instructors rated programs of instruction (POIs) as not current with respect to Army doctrine or practices.

Instructors also reported that training was sometimes seriously impeded by a lack of training support (especially equipment, ammunition, training aids, and supplies)—most acutely for Individual Duty for Training (IDT). Equipment, for example, was described as "somewhat inadequate" or "very inadequate" by 46 percent of instructors teaching IDT courses and by 17 percent of those teaching Annual Training (AT) courses.

In contrast, we did not find instructor qualifications to be a serious problem. For instance, we closely examined courses from 15 RCTIs that were taught at AT during FY94, covering a broad range of subjects. Among the instructors for these courses, 93 percent were fully qualified in the MOS they were teaching and 92 percent had completed the prescribed instructor training course. Similarly, only small fractions of RCTI managers and students (fewer than 15 percent) rated instructors as "not knowledgeable." In fact, the RC instructors were more senior (in terms of grade) than the typical instructors in AC schools. Our own visits to courses, coupled with TRADOC's official accreditation activities, reconfirmed that the conduct of instruction was normally appropriate and was done according to the Army's prescribed standards.[4]

However, in contrast to this picture of generally competent instruction, simply locating enough qualified instructors was more of a

[4]However, we were not able to assess instructors who taught only IDT courses, and problems could be more prevalent among that group.

problem for RCTIs, with 29 percent of the RCTIs overall describing this as a moderate or severe problem.

## ASSESSMENT OF TRAINING RESOURCES AND COSTS

The Army has long recognized difficulties in estimating the amount of resources devoted to RC training and in assessing how efficiently those resources are employed. To address resource issues, we first assessed the extent of resources used in a sample of courses and schools (including such items as instructor and staff manning, travel, student costs, equipment and supplies, and facilities and installation support). The analysis then attempted to identify the key cost drivers and to suggest system characteristics that may hamper efficiency.

Results of the resource analysis highlight the importance of personnel costs and the limited ability to achieve monetary savings through school reorganization. Training manpower and student costs account for 87 percent of our total RCTI cost estimates, with much of the training and support manpower provided by Table of Distribution and Allowances (TDA) slots in training institutions. In addition, nearly half of the total cost of operating RCTIs is paid for with unit training dollars allocated for IDT and AT (primarily time for unit members to attend collective or individual training). These costs are "fixed" in that they are part of overall authorized Army end strength and occur within RC soldiers' 39-day-per-year training allotment.[5] Supplementary dollars—that is, extra funding to augment training in RCTIs—contribute relatively little to the total cost of training.[6] Therefore, significant efficiency gains will have to come mostly from savings or changes in manpower rather than other categories.

Focusing specifically on RCTI use of manpower, we also noted that varying types of schools differed sharply in their apparent efficiency levels. One measure of manpower efficiency was defined as the ratio of "training man-days" (instructors and staff) to student days. This is roughly an indicator of the amount of "input" (school personnel) to

[5]Hence, when soldiers attend school with IDT/AT funds, they do not attend collective training with their unit.

[6]For example, we estimate that supplementary dollars contribute 20 cents of every dollar spent to conduct training in RCTIs.

produce "output" (trainees). According to this measure, the input/output ratio is much higher (i.e., less efficient) in multifunctional schools (U.S. Army Reserve Forces, USARF, schools and state military academies, SMAs) than in more specialized schools (regional NCO academies, NCOAs, and regional training sites for maintenance, RTS-Ms). And the input/output ratio for all types of RCTIs combined (.72) was far higher than the ratio for AC schools (.28).

These differences are no doubt partly driven by inherent challenges of providing training in the RC, where many schools have small student populations, a wide range of courses, geographic dispersion, and sites that require special set-ups (e.g., at AT). However, these results suggest that to achieve greater efficiency, RCTIs may need to move toward becoming larger and more specialized (though fewer in number), with more fixed sites and organic assets and with repeated courses with more predictable student loads.

## IMPLICATIONS

These assessments attest to systemic problems in the RC training system, many of which go well beyond the prototype now being tested but which need to be addressed to improve overall efficiency and effectiveness. For example, the most fundamental quality problem lies not with instructors but with the distribution of adequate, up-to-date courseware in sufficient quantities and with the provision of adequate support items. The RC system has evidently been straining, under growing pressure on resources, to supply a vast network of courses and training sites. Although increased consolidation and specialization should help, achieving further efficiencies will require new school organizations and improved resource planning and management systems. Perhaps even more fundamental is the mismatch between the large stated "requirement" and the smaller capacity of RCTIs. Some headway could be made by improving utilization of existing capacity, for example by filling more quotas and canceling fewer classes. However, the size of the requirement must also be whittled down, necessitating changes outside the school system itself. This might be achieved by a combination of favoring high-priority units, focusing on improving duty MOS qualification in the areas of greatest need, and reducing personnel turbulence, which is the fundamental driver of training requirements.

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We are also grateful for assistance received from our RAND colleagues. Initial contributions to the development of this project were provided by Major (ret.) Gary Moody, while a TRADOC Research Associate at RAND, and by Tom Martin and Craig Moore. Marilyn Yokota and Corazon Francisco provided invaluable research assis-

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We have benefited greatly from assistance provided by all these sources. Errors of fact or interpretation, of course, remain the authors' responsibility.

## ABBREVIATIONS

| | |
|---|---|
| AC | Active Component |
| ADSW | Active Duty for Special Work |
| ADT | Active Duty for Training |
| AGR | Active Guard and Reserve |
| ANCOC | Advanced NCO Course |
| ARCOM | U.S. Army Reserve Command |
| ARNG | U.S. Army National Guard |
| ASI | Additional Skill Identifier |
| AT | Annual Training |
| ATRRS | Army Training Requirements and Resources System |
| ATSC | Army Training Support Center |
| BNCOC | Basic NCO Course |
| CA | Combat Arms |
| CAS3 | Combined Arms Service and Staff School |
| CEAC | Army's Cost and Economic Analysis Center |
| CGSOC | Combined and General Staff Officers Course |

| | |
|---|---|
| CME | Career Management Field |
| CONUS | Continental United States |
| CONUSA | Continental United States Army |
| CS | Combat Support |
| CSS | Combat Service Support |
| DAIG | Department of the Army Inspector General |
| DMDC | Defense Manpower Data Center |
| DMOSQ | Duty MOS Qualified |
| DoD | Department of Defense |
| DS/GS | Direct Support/General Support |
| DSL | Duty Skill Level |
| ECS | Equipment Concentration Site |
| FAST | Future Army Schools - Twenty One |
| FORSCOM | U.S. Army Forces Command |
| FY | Fiscal Year |
| GAO | General Accounting Office |
| GOSC | General Officers Steering Committee |
| IDT | Individual Duty for Training |
| IET | Initial Entry Training |
| MATES | Mobilization and Training Equipment Site |
| MDEP | Management Decision Package |
| MOA | Memorandum of Agreement |
| MOS | Military Occupational Specialty |
| MTOE | Modified Table of Organization and Equipment |

| | |
|---|---|
| MUSARC | Major U.S. Army Reserve Command |
| NCO | Noncommissioned Officer |
| NCOA | NCO Academy |
| NCOES | NCO Education System |
| NGB | National Guard Bureau |
| O&M | Operations and Maintenance |
| O&S | Operations and Support |
| OES | Officer Education System |
| OPTEMPO | Operating Tempo |
| PLDC | Primary Leadership Development Course |
| POI | Program of Instruction |
| POL | Petroleum, Oil, and Lubricants |
| RC | Reserve Components |
| RCCPDS | Reserve Component Consolidated Personnel Data System |
| RCE | Regional Coordinating Element |
| RCTI | Reserve Component Training Institution |
| RC3 | Reserve Component Configured Courseware |
| RTS | Regional Training Site |
| RTS-I | Regional Training Site-Intelligence |
| RTS-M | Regional Training Site-Maintenance |
| SIDPERS | Standard Installation/Division Personnel System |
| SMA | State Military Academy |
| SQI | Skill Qualification Identifier |

| | |
|---|---|
| SSSC | Self-Service Supply Center |
| TAG | The Adjutant General |
| TASS | Total Army School System |
| TASSCA | Total Army School System Coordinating Activity |
| TATS | Total Army Training Structure |
| TCE | TRADOC Coordinating Element |
| TDA | Table of Distribution and Allowances |
| TDY | Temporary Duty |
| TOE | Table of Organization and Equipment |
| TRADOC | U.S. Army Training and Doctrine Command |
| USAR | U.S. Army Reserve |
| USARC | U.S. Army Reserve Command |
| USARF | U.S. Army Reserve Forces |
| UTES | Unit Training Equipment Site |
| VFAS | Vertical Force Accounting System |

Chapter One

# INTRODUCTION

For some time, the U.S. Army has recognized persistent problems in its extensive system of schools that provide technical and leadership training for the Reserve Components (RC). Critics have suggested, for example, that the existing system lacks efficiency, provides an inconsistent quality of training, and is difficult to manage to meet the training needs of RC units (see, for example, DAIG (1993)). To respond to these concerns, the Army began a test (starting in FY94) of a "prototype" regional school system in the southeastern United States, with the intention of broadening it nationwide after a suitable period of testing. The Army is also aiming toward a longer-term goal—to establish a cohesive and efficient Total Army School System (TASS) of fully accredited and integrated schools to serve all Army components.

To describe the situation at the outset of this program, this report provides a baseline description of the RC training system in terms of three key assessment areas:

- Training requirements and school delivery of courses;
- Quality of training;
- Resources and costs.

Our purpose is to quantify conditions and problems in the RC school system during FY94. Because the system is so fragmented, it has been difficult in the past to gain a full, top-down view of its operations. This assessment aims to provide such a view and thus to help

commanders and managers focus future efforts at restructuring the school system and adjust the prototype as it evolves.

## ARMY INSTITUTIONAL TRAINING: CONTEXT AND DEFINITIONS

The U.S. Army runs an extensive system of schools and centers that provide military education and training to soldiers in both the RC and the Active Component (AC). The system includes 27 branch schools and training centers within the U.S. Army Training and Doctrine Command (TRADOC) that conduct individual training, primarily for AC soldiers.[1]

These schools also conduct selected military education and training courses for members of the Army's two RCs: the Army National Guard (ARNG) and the U.S. Army Reserve (USAR).[2] However, a great deal of individual training of RC soldiers is done at schools and centers commanded directly by the RC, collectively known as Reserve Component Training Institutions (RCTIs). These schools conduct a variety of programs, aimed primarily at two types of training:

- **Reclassification training** for enlisted personnel who change military occupational specialties (MOS). Such training makes the soldier duty MOS qualified (DMOSQ), which is considered an essential characteristic for deployment and effective performance in a unit.
- **Leader training** for officers and for noncommissioned officers (NCOs). This encompasses most skill-progression courses for

[1]Individual training is defined by the Department of Defense as occurring "in formal courses conducted by organizations whose primary mission is training . . . to give individual service members the skills and knowledge that will qualify them to perform effectively as members of operational military organizations" (Department of Defense, 1994). See Winkler, Kirin, and Uebersax (1992) for a description of the various categories of individual training.

[2]According to current Army regulations, all enlisted members who join the RC without previous active-duty experience (i.e., non-prior-service personnel) must attend an AC training institution to receive their initial entry training (IET), which includes basic training and specialized skill training in a MOS. Currently, RC officers receive some specialized skill (e.g., the officer basic and advanced course) and functional training (e.g., special forces qualification) exclusively at AC training institutions.

NCOs in grades E-4 through E-6,[3] selected skill-progression courses for officers,[4] and various other functional or specialized courses.

Historically, each component has operated its own training system, encompassing different types of schools offering courses during Individual Duty for Training (IDT, also known as drill weekends) and/or during Annual Training (AT). The various types of RCTIs fall broadly into four categories:[5]

- State military academies (SMAs), managed by the ARNG and its state elements;
- U.S. Army Reserve Forces (USARF) schools;
- NCO academies (NCOAs) in various areas of the country, belonging to both the USAR and ARNG;
- Regional training sites (RTS), covering specific functional areas such as maintenance (RTS-M).

The AC, through TRADOC, has overall responsibility for training policy and for providing courseware to RCTIs. The courseware includes course management plans and programs of instruction (POIs), instructor guides, student guides, and tests. TRADOC is also responsible for ensuring the quality of instruction for RC soldiers through formal evaluation of and technical assistance to schools.

Responsibility for command, control, and support of the RCTIs remains the responsibility of the ARNG and USAR. Generally speaking, each state, through the Adjutant General (TAG), controls its respective ARNG SMA, while the National Guard Bureau (NGB) controls ARNG regional academies and training sites. The USAR schools have

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[3]Such courses are part of the noncommissioned officers education system (NCOES), including the Primary Leadership Development Course (PLDC) and the basic and advanced noncommissioned officers course (BNCOC and ANCOC, respectively).

[4]Currently, these include the Combined Arms Services and Staff School (CAS3) and the Combined and General Staff Officers Course (CGSOC) for RC officers.

[5]To provide some context of the size of the system, in 1992 the DAIG indicated that there were 54 SMAs (one for each state, plus four territories), 90 USARF schools, 13 NCOAs (five in the USAR, and eight in the ARNG), and 28 RTSs (21 maintenance and seven medical). See DAIG (1993).

been generally controlled by respective Major Army Reserve Commands (MUSARCs),[6] except for the USAR's RTS-Ms, which have been controlled by U.S. Army Reserve Command (USARC).

In addition to these separate mechanisms for command and control, the AC and the two RC systems have had separate procedures for managing and resourcing the training of RC soldiers. The three components vary in their methods for deriving training requirements and identifying students, the degree of automation in their data systems, and mechanisms for programming, budgeting, and funding training. They also vary in structures; whereas the AC has a fixed structure of staff and instructors, the USAR maintains flexible Tables of Distribution and Allowances (TDAs) for schools. The ARNG has maintained few permanent spaces on its TDA for training manpower and relies extensively on soldiers "borrowed" from units or soldiers on Active Duty for Training (ADT).

ARNG and USAR soldiers can attend each other's schools and courses, as well as AC schools and courses. Some coordination of regional RC institutional training is accomplished at higher headquarters, principally at the Continental United States Armies (CONUSAs) and within the two components' higher headquarters. Ultimately, however, the conduct of much training has relied on cooperative arrangements and informal agreements at the local level among RC units and RCTIs to share resources such as instructors, facilities, and equipment.

## STRUCTURAL CHANGES IN THE ARMY SCHOOL SYSTEM

In the early 1990s, several events focused attention on the structure, management, and operations of Army institutional training—particularly RC training institutions.

In light of their experience during Operations Desert Shield and Desert Storm, the Army and other agencies undertook a number of efforts to assess and enhance the readiness of RC personnel and units. These included assessments by the Department of the Army

[6]In recent years, the MUSARCs have been under the command and control of the U.S. Army Reserve Command (USARC). Before that, they were under the control of the Continental United States Armies (CONUSAs).

Inspector General (DAIG) and the General Accounting Office (GAO), which focused attention on the need for improvement in a number of areas.[7] Improvements in DMOSQ and leader training were two of the major needs identified.

In addition, the DAIG conducted a special assessment of RCTIs, which identified a number of problems with the RC school system. The assessment concluded that changes were needed to strengthen oversight and management of training, to better identify and prioritize training requirements, to improve the consistency of training delivery, and to increase the efficiency of RCTI operations.[8]

At the same time, defense downsizing and reductions in available resources established the need to shrink the training infrastructure and reduce the costs of training. The three school systems managed by the respective components appeared duplicative in many instances, with similar courses being provided in multiple locations.[9] Moreover, the seeming complexity of the system suggested to many that consolidation and streamlining could save resources and lower the cost of training.

## Concept for a Total Army School System

In 1992, the Chief of Staff of the Army asked TRADOC to develop plans for consolidating training facilities and improving training standards, aiming eventually to establish a "Total Army School System" (TASS) that would have fully accredited and integrated AC/ARNG/USAR schools to provide standard individual training and education for all components of the Army.

The resulting program, which evolved into the TASS prototype, envisioned innovations according to four principles:[10]

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[7]See DAIG (1991) and General Accounting Office (1991).

[8]See DAIG (1993).

[9]In 1992, for example, the system contained 63 AC, 87 ARNG, and 108 USAR training institutions that conducted courses in approximately 950 locations.

[10]Test Memorandum of Agreement (MOA) among the U.S. Army, the ARNG, and the USAR, June 24, 1993; *Concept Plan for Organizing a Total Army Training Structure (TATS) Individual Institutional Training System*, U.S. Army Training and Doctrine Command, 1993.

- **Regionalization.** The plan divided CONUS schools into geographic regions, for purposes of training management.
- **Integrated school system management.** Operation and oversight functions were to be provided by a "TRADOC coordinating element" (TCE) to coordinate training operations and policy across all regions, and by a "regional coordinating element" (RCE) to control institutional training and perform quality assurance functions in its geographical area.
- **Functional alignment of RC instruction with appropriate proponent schools.** This approach would change RCTIs from a multifunctional role, where they were responsible for the full array of Army course offerings across many areas of specialization, to a focus on one functional area. The AC school specializing in that area was then to supply oversight and technical assistance.
- **Quality assurance.** Programs were established to accredit institutions, certify and recertify instructors, and improve and standardize training standards.

These principles were to be implemented in test mode in a prototype school system, which was set up during 1993 and 1994 in Region C (the states of North Carolina, South Carolina, Georgia, and Florida).

## Evolution of the TASS Prototype

Coincidentally, the Department of the Army moved to reduce and realign certain RC organizations, altering features of the system that were subsequently incorporated into TASS's design. The most important of these changes were the following:

- USAR Training Divisions were aligned with the TASS regions and assigned responsibility for USARF schools, thereby relieving local USAR commands of responsibility for managing institutional training.[11]
- Brigades and battalions were established to oversee institutional training.

[11]The 108th Training Division is responsible for the USARF schools in Region C.

- USAR training divisions were assigned responsibility for four brigades: combat support (CS), combat service support (CSS), officer education, and health services.
- The ARNG was assigned responsibility to run two brigades: combat arms and leadership (NCOs), as well as one battalion (ordnance) within the USAR's combat service support brigade.[12]

## RESEARCH OBJECTIVE

Given the magnitude of change implied by these new programs, various Army agencies requested an independent, objective assessment of school system operations to provide information relevant to the future development of TASS. RAND's Arroyo Center was asked to conduct this assessment. This report provides a baseline description of the RC training system, and it attempts, where possible, to quantify conditions and problems in the RC school system during FY94. The aim here is quantitative description, using measures of school system performance that characterize how well the system is operating. These measures serve as benchmarks for assessing subsequent changes in school system performance and for making subsequent comparisons of parts of the system. Beyond providing the baseline description, the report also outlines how the prototype may affect the range of problems described by the data.

## RESEARCH APPROACH

### Identifying the Critical Areas for Assessment

We first identified three areas fundamental to the system where organizational changes could make a difference, in light of the previous assessments of problems in RC institutional training. The first area concerns the extent to which the school system is successful at *meeting training requirements* (i.e., establishing accurate require-

[12]Further modifications to the initial TASS concept occurred during implementation of the prototype in Region C. One of the more significant changes was the transfer of all cross-component coordination responsibilities to the CONUSA from the RCE early in 1994. The RCE retained primarily a quality assurance function, while the CONUSA (2nd U.S. Army in the prototype region) retained primary responsibility for overseeing and managing RC training in the region.

ments for unit personnel needing training and meeting those needs by scheduling courses and conducting them in such a way as to produce the desired number and types of graduates).

The second area is the *quality of training*, which involves improving the capability of schools to deliver training to established standards by having correct and up-to-date training products, qualified instructors, and appropriate support on hand (e.g., equipment, ammunition, facilities).

The third area is *efficient use of resources*, where improvements involve reducing duplication, increasing capacity utilization, and lowering costs, and would be manifested in changes that make better use of manning, travel, equipment, facilities, training funds, and other categories of resources.

## Specifying Quantifiable Measures

Within our three assessment areas, we identified a number of detailed performance measures. For example, to assess training requirements and schools' ability to meet them, we quantified the size of groups needing training within the RC, the capacity of the school system to deliver the necessary courses, and the rates at which students attended and graduated from those courses. In the area of training quality, we assessed the availability and adequacy of courseware, the qualifications of instructors, and the extent to which courses received essential on-site support, such as equipment and ammunition. In resource analyses, we identified the primary categories of resources needed by RCTIs (such as costs for manpower, mission, and support), determined the primary sources from which they were funded, and developed measures enabling the relative efficiency of different school organizations to be compared.

## Collecting Data

**Existing versus new data.** To measure school system performance, we began by obtaining data from existing systems when possible; however, ultimately we had to create new data-collection mechanisms to capture some of the information needed.

For example, in our first assessment area, requirements and school delivery of courses, much of the information was available from existing national-level systems (the Standard Installation/Division Personnel System, SIDPERS, and the Army Training Requirements and Resource System, ATRRS), but this had to be reviewed and augmented by other data.[13]

We found very little for the second assessment area—training quality. To assess training quality, we collected special administrative reports from RC commands and RCTIs, visited RCTIs and observed training, and administered questionnaires to RCTI instructors and students.[14]

Assessing the third area—resources and costs—also required developing new data, as well as new methods. Two Army organizations (the DAIG and the Army Audit Agency) had previously concluded that calculating the cost of RC training was impossible using existing data systems, because RC institutions operate largely on borrowed resources—personnel, equipment, and facilities—without documentation or reimbursement. Borrowing resources is not done by exception; it is an established way of conducting business for RC schools.

Further, even if no resources were borrowed, systematically comparing resource consumption among different RC schools is cumbersome using only existing resource and budgetary data. First, funding conventions can differ by component, by type of school, and by type of course, making comparisons difficult. Second, expenditures for schools can become lost in aggregate accounts used for a wide range of purposes.

Hence, to obtain measures of resource utilization and calculate training costs, we developed instruments that permitted standardization of data elements across various organizations, and we obtained cost factors and resource and funding data from national and

[13]The specific process for data collection for this area, along with a more complete description of the SIDPERS and ATRRS systems, is included in Chapter Two.

[14]The specific process for collecting data in this area, as well as more complete descriptions of the surveys used, is included in Chapter Three.

regional RC commands, RCTIs, and instructors and students where we observed training.[15]

**New data: broad versus narrow focus.** While the existing data were mainly national in scope, the new data were collected from a subset of the school system—RC commands and schools in the prototype area (Region C) and a comparison area of the country (Region E).[16] Table 1.1 shows the 18 and 26 RCTIs in Regions C and E in FY94, respectively, broken down by type of RCTI. Data were collected on the regional level primarily for resources, dollars, and school reports of training requirements and shortfalls. However, because the Army school system is broad and complex even on the regional level (as shown in Table 1.1), and because the cost of gathering the needed new data on even a regional scale would be prohibitive, for some purposes we chose a representative sample of RCTIs and courses for focused data collection.[17] Data collected from sample schools and instructors mainly addressed issues of training quality.

## REPORT ORGANIZATION

In the next three chapters we examine the results of the analyses of training requirements and school capacity, training quality, and cost and resources. Each chapter overviews the particular problem area and presents the global and specific questions that drove the analysis. This is followed by a more detailed discussion of the performance indicators and data sources discussed above. Finally, key findings for the area are provided, first in overview form and then with supporting detail.

The final chapter examines the implications of these key findings for future changes in the Army's school system, highlighting the major problems that need to be addressed and relating them to features of the prototype program.

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[15]The specific process for collecting data in this area is described in more detail in Chapter Four.

[16]Region E includes Minnesota, Wisconsin, Illinois, Indiana, Ohio, Iowa, and Michigan. A more thorough discussion of the two regions and of the approach used to collect data there is included as part of Chapter Three on training quality.

[17]Chapter Three contains a discussion of the sample schools and courses chosen for detailed analysis.

**Table 1.1**

**RCTIs in Regions C and E**

| | RCTI | |
|---|---|---|
| Type of RCTI | Region C | Region E |
| USARF | Chamblee, GA | Cincinnati, OH |
| | Macon, GA | Warrensville, OH |
| | Charlotte, NC | Blacklick, OH |
| | Garner, NC | Columbus, OH |
| | Columbia, SC | Kingsbury, IN |
| | Greenville, SC | Indianapolis, IN |
| | Charleston, SC | Inkster, MI |
| | Jacksonville, FL | Lansing, MI |
| | Tampa, FL | Fort Sheridan, IL |
| | Peoria, IL | |
| | Davenport, IA | |
| | Des Moines, IA | |
| | Fort Snelling, MN | |
| | Madison, WI | |
| SMA | Georgia | Minnesota |
| | Florida | Wisconsin |
| | North Carolina | Illinois |
| | South Carolina | Indiana |
| | | Iowa |
| | | Michigan |
| | | Ohio |
| NCOA | Leesburg, SC | Fort McCoy, WI |
| | Fort Benning, GA | |
| RTS-M | Fort Bragg, NC | Camp Ripley, MN |
| | Fort Stewart, GA | Camp Dodge, IA |
| | Camp Blanding, FL | Augusta, MI |
| | | Fort McCoy, WI |

Chapter Two

# TRAINING REQUIREMENTS AND DELIVERY

## BACKGROUND

Previous assessments of personnel and training readiness have noted shortfalls with respect to personnel qualification levels in U.S. Army RC units.[1] Although ideally RC units should be fully manned with fully trained individuals, many positions are either vacant or held by individuals not qualified to serve in the specific duty position. There are many reasons for this—positions may be difficult to fill given an RC unit's need to recruit to specific positions from the local area, promotions and unit conversions create substantial turnover in entry-level and leadership positions, and newly assigned soldiers may require lengthy periods to complete training or retraining for the position. Nonetheless, regardless of reason, the result is that soldier deployability and unit readiness are degraded.

As noted in previous research, a key aspect of RC personnel readiness is the proportion of personnel who are duty MOS qualified (DMOSQ) among enlisted personnel in a unit. Rates of MOS qualification vary widely by grade. They tend to be quite low among very junior personnel, because new recruits in the RC are carried on the unit rolls (and are counted in the MOS qualification statistics) even though they have not yet attended their initial entry training (IET). However, a more fundamental problem affects soldiers in key leadership positions (grades E-5 and above) who need reclassification training to qualify in their duty MOS. Based on survey data in RAND's analysis

[1] See, for example, Buddin and Grissmer (1994) and Sortor et al. (1994).

of RC units participating in the Bold Shift program, the DMOSQ rates for most of the grades at E-5 and above fall in the range of 75 to 85 percent.[2] Within these grades, the non-DMOSQ soldiers are those who have switched specialties within the RC or who have transferred into an RC unit from a different specialty in the AC.

One suggestion for alleviating this problem is to have RC units and schools make greater efforts to send non-DMOSQ personnel to school. However, based on survey data from RAND's Bold Shift work, although many of the nonqualified soldiers did report they were scheduled for such training, fewer than half of those at grade E-5 or above who needed MOS training were attending or scheduled for school. These data suggest that attempts to get soldiers into schools or scheduled for school were not fully successful, and that more fundamentally, there is a large training requirement driven by MOS reclassification.

In addition to DMOSQ, another factor relevant to readiness is completion of required leadership courses. As with DMOSQ, the RC faces a challenge in developing leaders and maintaining their skills. For example, as shown in a previous RAND document,[3] RC leaders tend to have less career experience than their active-duty counterparts; in addition, as noted by the U.S. Army Training Board,[4] RC leaders find it difficult to attend professional development courses the Army has established for them.

In fact, observers of Operation Desert Shield agreed that lack of leadership skills was a major problem for the RC during the postmobilization training process, particularly for the combat brigades. One of the major factors noted by both the DAIG and the GAO as contributing to these leadership problems was that many leaders had not attended the appropriate professional development courses. Under Bold Shift, Army and U.S. Army Forces Command (FORSCOM) directives emphasized the need to ensure that RC leaders attended NCO professional courses to qualify them for their leadership position.

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[2]See Sortor et al. (1994).

[3]Ibid.

[4]U.S. Army Training and Doctrine Command (1987).

The primary NCO professional courses are as follows:

- **Primary Leadership Development Course (PLDC).** This two-week resident course provides training in leadership fundamentals, Army training methods, and basic tactics. Completion is required for promotion to E-5.
- **Basic NCO Course (BNCOC).** This two-phase course introduces basic skills for NCOs at grades E-6 and above. Phase 1 provides general leadership training that is not MOS-specific, which can be taught in either six consecutive days or three weekends. Phase 2 contains MOS-specific material usually developed by the proponent schools and taught in two-week resident mode for most MOSs. (Some MOSs need a longer course time.) Completion is a requirement for promotion to E-6.
- **Advanced NCO Course (ANCOC).** Like BNCOC, ANCOC is a two-phase course on becoming an effective platoon sergeant or senior section sergeant (E-7). Phase 1 is common leader training that is not MOS-specific but includes a field training exercise. It can be taught in either fourteen consecutive days or six weekends. Phase 2 contains MOS-specific material usually developed by the proponent schools taught in a two-week resident mode for most MOSs. (Some MOSs need a longer course time.) Completion is a requirement for promotion to E-7.

Because these courses often require considerable time away from home, RC personnel have not always attended them at the career points prescribed in the active Army. Surveys undertaken during RAND's analysis of units attending Bold Shift confirmed previous GAO research that a substantial fraction of E-5s, E-6s, and E-7s have not completed the course required for their grade. Specifically, that research found that 37 percent of E-5s have not attended PLDC; that 39 percent of E-6s have not completed any portion of BNCOC, with 27 percent having completed Phase 1 but not Phase 2; and that 29 percent of E-7s have not completed any portion of ANCOC, with 36 percent having completed only Phase 1 but not Phase 2.[5] Moreover, shortages in some grades make this problem worse. Positions that are not filled by a soldier in the appropriate grade are typically filled

[5]See Sortor et al. (1994).

by someone from the next lower grade. These people represent a significant backlog for the schools, since many soldiers will need to complete the course required for their current grade before they take the next course, which is required for promotion.

These findings suggest that some fundamental qualification and leader training problems have not been solved. This chapter uses national-level data to get at the root of these problems. Specifically, looking at the FY94 period, the research focuses on the scope of the training requirements and the degree to which the RCTIs meet the need—encompassing reclassification training of personnel who are not duty MOS qualified to qualify them for their MOS, and noncommissioned officer education classes for NCOs (NCOES)—for U.S. Army RC soldiers and guardsmen.

In this chapter we first describe the issues addressed and the data sources used in these analyses. Then we describe the size and nature of DMOSQ and NCOES training requirements and compare them against the capacity of RCTIs to meet them. Next we analyze how the school utilizes capacity and how efficiently it produces trained graduates. Results of our analyses are shown first for reclassification training and then for NCO professional education.

## RESEARCH QUESTIONS

In conducting the research, we started by trying to answer a global question: How good is the match between unit requirements for training and the ability of RCTIs to satisfy those requirements? We then decomposed the global question into two more specific questions. First, we asked, *How many soldiers could be trained in RCTIs?* This question, in turn, has a series of subquestions:

- How extensive is the training requirement for DMOSQ and NCOES in ARNG and USAR units?
- How does the requirement for DMOSQ reclassification training compare to the requirement for IET among assigned personnel?
- What are the relative magnitudes of NCOES requirements based on impending promotions versus backlogs of personnel requiring NCOES for their duty position?

- How do these training requirements vary by component, unit priority status, functional area, and region?

The second specific question—*How much training is available and delivered in RCTIs?*—has three subquestions:

- How much of the requirement can be met with available Reserve Component Configured Courseware (RC3)?
- How much classroom capacity is there relative to need, and how well is this capacity utilized in RCTIs?
- How many graduates do the RCTIs produce in relation to requirements and capacity?

## DATA SOURCES AND DEFINITIONS

To answer these two questions, we used a number of data sources. Much of the analyses are based on national-level data systems the Army uses to manage personnel and training activities. These include the ARNG's and USAR's Standard Installation/Division Personnel System (SIDPERS), the Defense Manpower Data Center's (DMDC's) Reserve Component Consolidated Personnel Data System (RCCPDS), and the Army Training Requirements and Resources System (ATRRS). The findings presented below are stated under the assumption that the data we have extracted are reasonably accurate and current.[6] The major data elements and their sources are shown in Table 2.1.

In general, we used FY93 end-of-year data to estimate training requirements at the beginning of FY94. We examined unit required and authorized positions using the September 30, 1993 DMDC authorizations and requirements file, and we estimated DMOSQ and NCOES training requirements at the start of FY94 using data extracted from ARNG and USAR SIDPERS files.[7]

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[6]We have discussed issues of data reliability and validity with the Army agencies responsible for these systems to ensure the data we used are reasonably accurate. However, given the size of these data systems, some errors in data accuracy are to be expected.

[7]These extracts were prepared based on data in the system as of November 1993, to permit a suitable lag for capturing end-of-1993 data.

**Table 2.1**

**Data Elements and Sources**

| | |
|---|---|
| Unit required/authorized positions | DMDC Authorizations and Requirements File, September 30, 1993 |
| Unit manned positions; MOSQ and NCOES training requirements | SIDPERS, September 30, 1993 |
| Unit priority status and inactivations | Vertical Force Accounting System (VFAS), March 1994 |
| Reserve Component courseware | RC3 listings, FY94 |
| School training capacities, utilization, and production | ATRRS, FY94 |
| MOSQ and NCOES training completion | SIDPERS, September 30, 1994 |

Subsequently, we used FY94 end-of-year data from ATRRS and SIDPERS to analyze training system capacity and course delivery and completion of training.[8] To examine the availability of training programs exportable to RCTIs during FY94, we used listings of RC3 obtained from the RC-Trainnet data system, and we obtained information about units' priority and activation status from the Army's Vertical Force Accounting System (VFAS).

Table 2.2 puts overall training requirements into perspective by listing ARNG and USAR enlisted requirements, authorizations, on-hand personnel, and assigned drilling guardsmen and reservists as of September 30, 1993. As shown in the table, on-hand personnel are approximately 99 percent of the authorized strength (574,349 assigned of the 582,059 authorized). Of the assigned personnel, nearly 50,000 soldiers are excluded because they are full-time (Active Guard and Reserve, or AGR) personnel or not assigned to units, leaving 524,726 drilling reservists (around 91 percent of the assigned soldiers).[9] These soldiers represent the starting point for our analyses, which will now examine how many of them needed training that could be conducted at ARNG or USAR RCTIs in FY94.

[8]The ATRRS and FY94 SIDPERS data were provided to us in November 1994.

[9]Additional cases are excluded because of data problems (approximately 4,000 personnel).

**Table 2.2**

**Enlisted Personnel Requirements, Authorizations, On-Hand, and Assigned Drilling Reservists (September 30, 1993)**

| Component | Required Number | Authorized Number | On-hand Number | On-hand Percentage | Number Assigned Drilling Reservists | Percentage Assigned Drilling Reservists |
|---|---|---|---|---|---|---|
| ARNG | 381,007 | 364,859 | 362,099 | 99.2 | 321,354 | 88.8 |
| USAR | 232,780 | 217,200 | 212,250 | 97.7 | 203,372 | 95.8 |
| Total | 613,787 | 582,059 | 574,349 | 98.7 | 524,726 | 91.4 |

SOURCE: DMDC Authorizations file, September 30, 1993.

## KEY FINDINGS

### Overview

When we look at both DMOSQ reclassification training and NCOES professional education, we find that the training requirements for both appear sizable—more than 85,000 (16 percent) of assigned drilling reservists are not qualified for their duty position, and around 104,000 (about 48 percent) of the E-4s through E-7s need NCOES for their impending or current grade as of the end of FY93.[10] Of the around 104,000 personnel needing NCOES, around 94,500 (90 percent) are a "backlog," requiring NCOES because the soldiers have an incomplete NCOES requirement for their current grade; the remaining 10 percent of the requirement is for soldiers needing NCOES because they have been selected for promotion (and have not yet completed the required NCO course).

In terms of capacity to meet these requirements, we find that current RCTI school training capacity cannot meet the more than 85,000 DMOSQ training requirement. The system could meet the needs of

[10]Although the personnel records show these soldiers as not qualified, not all these are "true" training requirements, given that some will leave the force and others may move to jobs for which they are qualified during the fiscal year. These will be offset, however, by prior-service accessions and soldiers changing duty MOS who are not qualified for their new positions. A precise estimation of training requirements should take these dynamics into account.

only around 31,000 soldiers needing reclassification training in FY94, or around 36 percent of the requirement.[11] Although less training was available than was needed, we find that the number of "lost" and unused quota allocations[12] indicates that available training capacity is not fully utilized. Specifically, by the conclusion of AT in FY94, the RCTIs provided about 20,000 graduates, utilizing 64 percent of the initial quota allocations that were established, which represents only around 23 percent of the more than 85,000 requirement.

As for the NCOES requirements, we find that current RCTI school training capacity can keep up with promotion-based NCOES requirements, but not with the much larger backlog requirements in a single year. The system could meet the need for around 46,000 fully qualified NCOs, or around 44 percent of the requirement of about 104,000.[13] However, as was the case for DMOSQ, the NCOES system was underutilized. Specifically, in FY94, the RCTIs graduated about 30,000, fulfilling 63 percent of the initial quota allocations established, which represents only around 28 percent of the requirement.

Next, we turn to the specific support for these findings.

## The DMOSQ Training Requirement Is Sizable

Our analyses of reclassification training cover all drilling guardsmen and reservists in grades E-1 through E-9. We define an individual as DMOSQ if the duty MOS through the first three digits matches the first three digits of the primary, secondary, or additional MOS according to SIDPERS records.[14] We do not consider additional skill

[11]Moreover, as emerging analyses indicate, even when job turnover and attrition are taken into account, this number still falls far short of the DMOSQ requirement.

[12]A "quota allocation" is a seat programmed in the training system.

[13]By "fully qualified," we mean having completed PLDC, BNCOC, or ANCOC, as appropriate for their grade.

[14]Previous estimates of DMOSQ have often examined only the match between primary and duty MOS. We include secondary and additional MOS, because individuals whose duty MOS matches one of these (but not their primary MOS) do not require reclassification training. Including these individuals raises DMOSQ rates by approximately 2–3 percentage points.

identifiers (ASIs) or skill qualification identifiers (SQIs) in this definition.[15]

Table 2.3 shows that the number of soldiers who are DMOSQ in the ARNG and USAR at the beginning of FY94 is about the same for both components—73 percent—with the remaining 27 percent requiring training.

Of that 27 percent requiring training, approximately 11 percent need IET, according to Army personnel records,[16] while the remaining 16 percent have completed IET and require reclassification training; this 16 percent, then, reflects the mismatch between the duty position these personnel are assigned to and any "earned" MOS. We describe this population as "RCTI eligible," since, in principle, these soldiers could obtain reclassification training in an RCTI.[17]

As shown in Table 2.3, the number of non-DMOSQ soldiers as of September 30, 1993 is considerable for both the ARNG and USAR, totaling more than 85,000 enlisted personnel. Although the ARNG's requirement is numerically larger, exceeding the USAR's by nearly

**Table 2.3**

**DMOSQ Training Requirement by Component**

| Component | Number Drilling Reservists | Number DMOSQ | Percent DMOSQ | Number Need IET | Percent Need IET | Number RCTI Eligible | Percent RCTI Eligible |
|---|---|---|---|---|---|---|---|
| ARNG | 321,354 | 233,367 | 72.6 | 39,459 | 12.3 | 48,528 | 15.1 |
| USAR | 203,372 | 147,594 | 72.6 | 18,871 | 9.3 | 36,907 | 18.2 |
| Total | 524,726 | 380,961 | 72.6 | 58,330 | 11.1 | 85,435 | 16.3 |

SOURCE: ARNG and USAR SIDPERS, November 1993.

[15]Including ASI affects our estimates of DMOSQ rates by less than one-tenth of a percentage point.

[16]We define soldiers as needing IET if their duty MOS equals their primary/secondary/additional MOS and if their skill level is coded "0."

[17]According to current Army regulations, all non-prior-service personnel who join the RC must obtain their IET at an AC training institution. Prior-service personnel who join the RC, and non-prior-service personnel who have completed IET and subsequently change jobs, may obtain reclassification training at an RCTI.

12,000 trainees, the percentage of USAR soldiers who require reclassification training (as opposed to IET) is slightly larger—18 percent as compared to 15 percent.

**DMOSQ Requirements vary across skill areas and units.** To examine how the need for reclassification training differs according to populations of soldiers, we further examined the duty MOS training requirement along a number of dimensions, including duty skill level (DSL), unit priority status, and TASS functional area. The principal results are shown below.

Table 2.4 shows how reclassification requirements differ by DSL, distinguishing entry-level soldiers (skill level 1) from those at higher DSLs. As shown in the table, the number of soldiers requiring reclassification training whose DSL is 2–5 (corresponding generally to grades E-5 through E-8) is substantial, totaling more than 44,000 personnel, or roughly 20 percent of all NCOs in skill level 2–5 jobs.[18] Hence, nearly half of all soldiers eligible for reclassification training are sergeants holding leadership positions for which personnel records show them as not technically qualified.

**Table 2.4**

**DMOSQ Reclassification Requirement by Duty Skill Level (September 30, 1993)**

| Duty MOS Skill Level | Number RCTI Eligible | Percent RCTI Eligible |
|---|---|---|
| ARNG | | |
| 1 | 26,194 | 14.8 |
| 2–5 | 22,334 | 16.3 |
| USAR | | |
| 1 | 14,969 | 14.7 |
| 2–5 | 21,938 | 24.1 |
| All | | |
| 1 | 41,163 | 14.7 |
| 2–5 | 44,272 | 20.5 |
| Total | 85,435 | 16.3 |

SOURCE: ARNG and USAR SIDPERS, November 1993.

[18]This number is consistent with previous estimates in RAND's Bold Shift research. See Sortor et al. (1994).

Table 2.5 shows how the DMOSQ rate among enlisted soldiers assigned to high-priority units differed from that in other units at the start of FY94.[19] Overall, the DMOSQ rate among high-priority units was 73 percent at the start of FY94, which is roughly comparable to the DMOSQ rate in all units. Approximately 12 percent of personnel assigned to higher-priority units need IET (roughly one percentage point greater than in other units). Overall, the proportion of personnel requiring reclassification training in high-priority units is about two percentage points lower than in other units (14.8 percent versus 16.7 percent, respectively).

Table 2.6 shows the differences in the rates of DMOSQ and the size of reclassification training requirements in various functional areas shown here to be consistent with TASS functional alignment boundaries. In sheer numbers, the largest reclassification training re-

**Table 2.5**

**DMOSQ Training Requirement by Unit Priority Status (September 30, 1993)**

| Unit Priority | Number RCTI Eligible | Percent RCTI Eligible |
|---|---|---|
| ARNG | | |
| High | 12,384 | 14.9 |
| Low | 36,144 | 15.2 |
| USAR | | |
| High | 6,197 | 14.6 |
| Low | 30,710 | 19.1 |
| All | | |
| High | 18,581 | 14.8 |
| Low | 66,854 | 16.7 |
| Total | 85,435 | 16.3 |

SOURCE: ARNG and USAR SIDPERS, November 1993; VFAS, September 1993.

[19]High-priority units include all units in any contingency force pool package and all ARNG enhanced brigades, as defined in the Vertical Force Accounting System (VFAS), March 1994.

**Table 2.6**

**DMOSQ Training Requirement by TASS Functional Area**

| Functional Area | Number RCTI Eligible | Percent RCTI Eligible |
|---|---|---|
| ARNG | | |
| Combat Arms | 11,449 | 11.2 |
| Combat Support | 12,944 | 17.4 |
| Combat Service Support | 20,597 | 17.5 |
| Health Services | 2,645 | 13.3 |
| Other | 893 | 13.7 |
| USAR | | |
| Combat Arms | 5,455 | 19.9 |
| Combat Support | 7,321 | 16.2 |
| Combat Service Support | 19,281 | 20.5 |
| Health Services | 3,282 | 10.7 |
| Other | 1,568 | 26.4 |
| All | | |
| Combat Arms | 16,904 | 13.0 |
| Combat Support | 20,265 | 16.9 |
| Combat Service Support | 39,878 | 18.8 |
| Health Services | 5,927 | 11.7 |
| Other | 2,461 | 19.7 |
| Total | 85,435 | 16.3 |

SOURCE: ARNG and USAR SIDPERS, November 1993.

quirements were in the combat service support areas (e.g., Personnel Support Services, Quartermaster, Transportation, and Ordnance).[20]

## RCTIs Can Serve Only a Small Part of the DMOSQ Training Requirement

We next compare the DMOSQ training requirement against the capacity of the RCTIs for DMOSQ training and the utilization of capacity. Capacity is the ability of the system to handle soldiers who re-

[20]RCTI eligibility rates can vary greatly from one MOS to another. For example, in examining specific MOSs, we found a wide range of percentages of assigned personnel requiring reclassification training (i.e., from 3 to 43 percent, depending on the MOS and the component).

quire training. Several factors contribute to this ability. The factors examined here are:

- Availability of MOS-specific courseware;
- Availability of classes with respect to occupations and skills needing training;
- Availability of training seats.

Table 2.7 shows the extent of training available, with respect to exportable courseware and course offerings in RCTIs, to serve RC soldiers who require reclassification training (and have completed IET and are, hence, potentially trainable at RCTIs). The left side of the table shows the number of soldiers in both the ARNG and USAR requiring reclassification training in each of the functional areas. As shown before, the total requirement is 85,435 personnel.

The middle columns of the table show the number and percentage of soldiers needing DMOSQ, and the number of associated MOSs, that in theory could be trained in an RCTI, with the RC3 available during FY94. Overall, 85 percent of soldiers needing reclassification training—a high overall percentage—have RC3 available to meet their training needs. In addition, RC3 covers more than half the MOSs—56 percent (or 181 of 326 MOSs). Hence, the inventory is sufficient to cover a large number of soldiers in the higher-density MOSs, should the system offer enough courses.

The right-hand side of Table 2.7 shows that during FY94, a reclassification course was available somewhere in the United States for 110 MOSs (61 percent of MOSs where RC3 exist). If all the soldiers requiring DMOSQ were able to attend (which they were not, because the total number of seats could not accommodate the total number of soldiers needing the training), the maximum number that could be served in principle would be 67,121 soldiers, which represents 93 percent of the soldiers for whom RC3 exists and 79 percent of those for whom there is a training requirement.

The training system, of course, is not able to offer training seats to all the soldiers who need training. Table 2.8 compares the DMOSQ requirement to the quota allocations available and net quota allocations during FY94 (along with the number of classes in which these

**Table 2.7**

**Availability of RC3 and Course Offerings for Reclassification Training by TASS Functional Area**

| Functional Area | Soldiers Not DMOS Qualified | RC3 Available? Number of Soldiers Percent of Soldiers Number of MOSs | | Status of Course when RC3 Available (Phase 2 Offered) Number of Soldiers Percent of Soldiers Number of MOSs | |
|---|---|---|---|---|---|
| | | No | Yes | Not Available | Available |
| Combat Arms | 16,904 | 627 | 16,277 | 785 | 15,492 |
| | | 3.71 | 96.29 | 4.82 | 95.18 |
| | | 29 | 40 | 18 | 22 |
| Combat Support | 20,265 | 3,255 | 17,010 | 1,251 | 15,759 |
| | | 16.06 | 83.94 | 7.35 | 92.65 |
| | | 41 | 53 | 18 | 35 |
| Combat Service Support | 39,878 | 6,794 | 33,084 | 1,652 | 31,452 |
| | | 17.04 | 82.96 | 4.99 | 95.01 |
| | | 31 | 65 | 17 | 48 |
| Health Services | 5,927 | 212 | 5,715 | 1,557 | 4,158 |
| | | 3.58 | 96.42 | 27.24 | 72.67 |
| | | 7 | 22 | 18 | 4 |
| Other | 2,461 | 2,181 | 280 | 0 | 280 |
| | | 88.62 | 11.38 | 0.00 | 100.0 |
| | | 37 | 1 | 0 | 1 |
| Total | 85,435 | 13,069 | 72,366 | 5,245 | 67,121 |
| | | 15.30 | 84.70 | 7.25 | 92.75 |
| | | 145 | 181 | 71 | 110 |

SOURCE: ARNG and USAR SIDPERS, November 1993; RC-Trainnet, 1994.

seats could be reserved). We show the quota allocations only for the final (Phase 2) portion of DMOSQ, which represents the potential capacity of the system to produce trained graduates who complete the relevant training sequence.[21]

Here we see that during FY94 the system initially offered 31,619 seats for reclassification training, representing 37 percent of the total

[21]Some courses have an initial phase taught during weekend drills (also known as IDT). We do not include these quota allocations here, because they are prerequisites to those shown in the table.

**Table 2.8**

**DMOSQ Training Requirement by Functional Area**

| Functional Area | Number RCTI Eligible | RC3 Available | Quota Allocations (Classes) | Quotas Canceled (Classes) | Net Quotas (Classes) |
|---|---|---|---|---|---|
| Combat Arms | 16,904 | 16,277 | 6,715 (337) | 1,048 (110) | 5,667 (227) |
| Combat Support | 20,265 | 17,010 | 7,899 (354) | 1,145 (82) | 6,754 (272) |
| Combat Service Support | 39,878 | 33,084 | 15,190 (1050) | 3,357 (261) | 11,833 (789) |
| Health Services | 5,927 | 5,715 | 1,203 (76) | 56 (8) | 1,147 (68) |
| Other | 2,461 | 280 | 612 (17) | 30 (2) | 582 (15) |
| Total | 85,435 | 72,366 | 31,619 (1,834) | 5,636 (463) | 25,983 (1,371) |

SOURCE: ATRRS School Aggregate file, November 1994.

DMOSQ requirement (85,435 soldiers), or 44 percent of the 72,366 soldiers potentially trainable in RCTIs. However, 5,636 quota allocations were subsequently lost because of nonconducted or canceled classes (18 percent of initial quotas allocated and 24 percent of the classes that were initially planned).[22] Altogether, nearly 26,000 training seats were eventually available for training. Hence, by the time training was offered to soldiers, 36 percent of soldiers covered by RC3 in theory could obtain seats at an RCTI (30 percent of the total requirement).

Although less training was offered than was needed, the number of "lost" quota allocations signals that available training capacity is not always properly used. Tables 2.9 and 2.10 provide further evidence that available capacity is underutilized in RCTIs. Table 2.9 shows the

[22]A class is nonconducted if the decision not to hold it was made before the class was scheduled to report. A class is canceled if this was done after the class was scheduled to report. This may occur because reservations and wait lists are less than the minimum required or because of the inability to locate needed equipment or a qualified instructor.

numbers of quota allocations, reservations, and inputs, which together provide the following measures of capacity utilization:

- The ratio of reservations to quota allocations, which shows the degree to which unit commanders and soldiers make reservations against available seats;
- The ratio of inputs to quota allocations, which shows the degree to which seats are actually used (e.g., by soldiers with reservations, by those on wait lists, and by unplanned "walk-on" attendees).

Looking first at capacity utilization for AT/ADT (Table 2.9), we start with the initial quota allocations for DMOSQ training—31,619 seats at RCTIs (as shown in Table 2.8). By the time training was actually conducted, 62 percent of the initial quota allocations had reservations made against them (by nearly 20,000 soldiers). At the time training was conducted, about 21,000 soldiers were in attendance. Thus, overall, two-thirds of the seats initially offered were filled[23]—by many soldiers holding reservations and an additional number of unprogrammed and "walk-on" attendees.

**Table 2.9**

**RCTI DMOSQ Capacity Utilization for AT/ADT by Functional Area**

| Functional Area | Quotas | Reserved Seats | Ratio of Reservations to Quotas | Inputs | Ratio of Inputs to Quotas |
|---|---|---|---|---|---|
| Combat Arms | 6,715 | 4,600 | 0.69 | 4,567 | 0.68 |
| Combat Support | 7,899 | 5,587 | 0.71 | 5,715 | 0.72 |
| Combat Service Support | 15,190 | 8,610 | 0.57 | 9,581 | 0.63 |
| Health Services | 1,203 | 501 | 0.42 | 869 | 0.72 |
| Other | 612 | 454 | 0.74 | 441 | 0.72 |
| Total | 31,619 | 19,752 | 0.62 | 21,173 | 0.67 |

SOURCE: ATRRS School Aggregate file, November 1994.

[23]If we disregard quota allocations for nonconducted and canceled classes, then the rate of reservations and inputs against the quota allocations actually executed improves, respectively, to 78 and 81 percent.

Finally, we examine the actual "production" of MOS-trained soldiers once courses begin, with respect to output and the efficiency with which this output is produced. Table 2.10 shows, for the AT/ADT courses that were held, the number of classes, inputs, and graduates that together provide the following measures of school delivery of courses and efficiency:

- Mean class size;
- Graduation rate, which shows how many of the inputs actually graduate;
- Ratio of graduations to quota allocations, which shows the degree to which production met initial capacity.

The data in Table 2.10 show that class sizes vary by functional area, with the smallest classes found in combat service support DMOSQ classes. Once held, the DMOSQ classes show low attrition rates and a high graduation rate (94 percent).

However, we see that even though the full capacity of the system, measured by total quota allocations, is well below the training requirement, the system's capacity is not fully used. By the conclusion of AT in FY94, the RCTIs produced 19,993 graduates, fulfilling 63 percent of the initial quota allocations (the 31,619 shown in Table 2.9)

**Table 2.10**

**RCTI DMOSQ Production for AT/ADT by Functional Area**

| Functional Area | Inputs | Number of Classes Conducted | Mean Class Size | Graduates | Graduation Rate | Ratio of Graduates to Quotas |
|---|---|---|---|---|---|---|
| Combat Arms | 4,567 | 188 | 24.3 | 4,282 | 0.94 | 0.64 |
| Combat Support | 5,715 | 239 | 23.9 | 5,472 | 0.96 | 0.69 |
| Combat Service Support | 9,581 | 697 | 13.8 | 9,003 | 0.94 | 0.59 |
| Health Services | 869 | 47 | 18.5 | 813 | 0.94 | 0.68 |
| Other | 441 | 14 | 31.5 | 423 | 0.96 | 0.69 |
| Total | 21,173 | 1,185 | 17.9 | 19,993 | 0.94 | 0.63 |

SOURCE: ATRRS School Aggregate file, November 1994.

that were established.[24] Hence, the eventual output of the system in FY94 represented 23 percent of the total DMOSQ requirement (the 85,435 shown in Table 2.8).

## The NCOES Training Requirement Is Potentially Larger

Our NCOES analyses typically examine enlisted personnel in grades E-4 through E-7 in relation to their promotion status and grade and their accomplishment of the NCOES courses discussed at the beginning of this chapter: PLDC, BNCOC, and ANCOC.[25]

There are two reasons why a soldier could need one of these courses. The first is when a soldier is selected for promotion and needs NCOES for the next-higher grade (e.g., E-4 being promoted to E-5 position needs PLDC). Customarily, the relationships between grade and NCOES requirement are as shown in Table 2.11. It also happens, however, that a soldier can get promoted without completing the associated NCOES requirement. For analytic purposes, we consider soldiers in such situations as a "backlog" for NCOES.

**Table 2.11**

**NCOES Requirements**

| Promotion | Required NCOES |
|---|---|
| E-4 to E-5 | PLDC |
| E-5 to E-6 | BNCOC |
| E-6 to E-7 | ANCOC |

[24]We are conducting similar analyses for the IDT (Phase 1) portion of DMOSQ training. Thus far, we have found indications of far greater problems with course availability, capacity utilization, and production in IDT, with reservations for less than half of the quota allocations showing in the system and an input-to-reservation ratio of greater than 1.0, indicating a large number of unprogrammed attendees. The attrition is almost four times higher (18 percent versus 5 percent). We also find significant problems with data reliability for IDT.

[25]We analyzed this factor by comparing the individual's grade in SIDPERS with the NCOES completion as shown in the individual's SIDPERS NCOES completion file.

Such situations may not be considered equal in terms of NCOES training priority. Some would argue that a NCOES requirement based on impending promotion is of higher priority than a backlog requirement. In any event, the current Army policy is that soldiers are to complete NCOES prior to promotion; it does not waive NCOES requirements where any such backlogs may exist. One of the goals of our study is to determine how many soldiers may fall into these categories and examine the extent to which any such priorities are evidenced in the delivery of training. Here, we are interested in looking at whether NCOES training delivery differs depending on whether the requirement is promotion- or backlog-based.

**Promotion-based requirements.** In an ideal world, the training requirement would exclusively equal soldiers receiving promotions; as a result, there would be no backlog. Table 2.12 shows end-of-FY93 to end-of-FY94 ARNG and USAR promotion rates for grades E-4 through E-6.[26] If the training requirement were "steady state," the ARNG and USAR NCOES promotion requirements would be equal to their promotion rates: about 6 and 7 percent, respectively, across these grades. Based on FY94 promotions, NCOES requirements would be as follows—12,218 for ARNG and 7,365 for USAR—for a total of 19,583.

Table 2.13 shows that in practice, however, the ARNG and USAR differ in terms of the timing of NCOES for promotable NCOs. The left side of the table shows the number of NCOs who were promoted in FY94 (as shown in Table 2.12), and of these, the number and percentage who received the appropriate NCOES in FY93 and the number and percentage who still needed NCOES. The ARNG, to a greater extent, tends to train prior to promotion. Fifty-seven percent of E-4s through E-6s who were promoted to the next grade in FY94 received the required NCOES in FY93. The corresponding rate among USAR E-4 to E-6s was 36 percent. Hence, of the 19,583 soldiers subsequently promoted in FY94, roughly 10,000 (around 51 percent) required training at the start of FY94.

[26]Table 2.12 entries are restricted to soldiers who appear in both the September 30, 1993 and September 30, 1994 SIDPERS.

**Table 2.12**

**FY94 E-4 Through E-6 Promotions by Component and Grade**

| Grade | Number on Hand 9/30/93 | Number Promoted 9/30/94 | Percent Promoted 9/30/94 |
|---|---|---|---|
| ARNG | | | |
| E-4 | 87,326 | 8,204 | 9.4 |
| E-5 | 67,641 | 2,859 | 4.2 |
| E-6 | 36,642 | 1,155 | 3.2 |
| Total | 191,609 | 12,218 | 6.4 |
| USAR | | | |
| E-4 | 50,688 | 4,132 | 8.2 |
| E-5 | 27,771 | 2,456 | 8.8 |
| E-6 | 21,511 | 777 | 3.6 |
| Total | 99,970 | 7,365 | 7.4 |
| Both | | | |
| E-4 | 138,014 | 12,336 | 8.9 |
| E-5 | 95,412 | 5,315 | 5.6 |
| E-6 | 58,153 | 1,932 | 3.3 |
| Total | 291,579 | 19,583 | 6.7 |

SOURCE: ARNG and USAR SIDPERS, November 1993 and 1994.

The right side of Table 2.13 shows the overall percentages of NCOs (focusing on those needing NCOES in FY94) who received the appropriate NCOES in FY94. By the end of FY94, only 10.2 percent of the ARNG soldiers promoted in FY94 still needed their NCOES. However, over 42 percent of the USAR NCOs still had not completed the requisite NCOES.

These findings would be very important if the bulk of NCOES requirements were promotion-driven, but in fact they are not. Promotion-based NCOES training requirements are bound by modest promotion rates. Backlog NCOES training requirements are not so bounded, and it is this subject that we examine next.

**Backlog-based Requirements.** Table 2.14 presents the size of the NCOES backlogs at the start of FY94. These totals are for grades E-5 through E-7. Two facts stand out. First, NCOES backlog requirements are very large; they outnumber promotion-based training re-

**Table 2.13**

**Promotions and Completions of NCOES by Component and Grade**

| Grade | Number Promoted in FY94 | Number Received NCOES in FY93 | Number Need NCOES in FY94 | Number Received NCOES in FY94 | Number Need NCOES |
|---|---|---|---|---|---|
| ARNG | | | | | |
| E-4 | 8,204 | 4,753 | 3,451 | 2,775 | 676 |
| | | 57.9% | 42.1% | 33.8% | 8.3% |
| E-5 | 2,859 | 1,481 | 1,378 | 912 | 466 |
| | | 51.8% | 48.2% | 31.9% | 16.3% |
| E-6 | 1,155 | 706 | 449 | 342 | 107 |
| | | 61.1% | 38.9% | 29.6% | 9.3% |
| Total | 12,218 | 6,940 | 5,278 | 4,029 | 1,249 |
| | | 56.8% | 43.2% | 33.0% | 10.2% |
| USAR | | | | | |
| E-4 | 4,132 | 1,787 | 2,345 | 1,034 | 1,311 |
| | | 43.3% | 56.7% | 25.0% | 31.7% |
| E-5 | 2,456 | 613 | 1,843 | 391 | 1,452 |
| | | 25.0% | 75.0% | 15.9% | 59.1% |
| E-6 | 777 | 276 | 501 | 118 | 383 |
| | | 35.5% | 64.5% | 15.2% | 49.3% |
| Total | 7,365 | 2,676 | 4,689 | 1,543 | 3,146 |
| | | 36.3% | 63.7% | 21.0% | 42.7% |
| Both | | | | | |
| E-4 | 12,336 | 6,540 | 5,796 | 3,809 | 1,987 |
| | | 53.0% | 47.0% | 30.9% | 16.1% |
| E-5 | 5,315 | 2,094 | 3,221 | 1,303 | 1,918 |
| | | 39.4% | 60.6% | 24.5% | 36.1% |
| E-6 | 1,932 | 982 | 950 | 460 | 490 |
| | | 50.8% | 49.2% | 23.8% | 25.4% |
| Total | 19,583 | 9,616 | 9,967 | 5,572 | 4,395 |
| | | 49.1% | 50.9% | 28.5% | 22.4% |

SOURCE: ARNG and USAR SIDPERS, November 1993 and 1994.

quirements by nearly an order of magnitude in both the ARNG and the USAR. Altogether, Army personnel systems show that of all soldiers in grades E-5 through E-7, nearly 44 percent have not completed the NCOES course required for their grade. This amounts to about 94,500 personnel. Barring severe data accuracy problems, this

**Table 2.14**

**Backlog-Based NCOES Requirements by Component and Grade (September 30, 1993)**

| Grade | Number Drilling Reservists | Number Need NCOES (backlog) | Percent Need NCOES (backlog) |
|---|---|---|---|
| ARNG | | | |
| E-5 | 82,988 | 36,647 | 44.2 |
| E-6 | 42,996 | 18,966 | 44.1 |
| E-7 | 12,461 | 3,993 | 32.0 |
| Total | 138,445 | 59,606 | 43.1 |
| USAR | | | |
| E-5 | 34,906 | 14,685 | 42.1 |
| E-6 | 25,183 | 13,627 | 54.1 |
| E-7 | 17,360 | 6,532 | 37.6 |
| Total | 77,449 | 34,844 | 45.0 |
| Both | | | |
| E-5 | 117,894 | 51,332 | 43.6 |
| E-6 | 68,179 | 32,593 | 47.8 |
| E-7 | 29,821 | 10,525 | 35.3 |
| Total | 215,894 | 94,450 | 43.8 |

SOURCE: ARNG and USAR SIDPERS, November 1993 and 1994.

is a startling result.[27] Taken with the promotion-based training requirements discussed above, the total NCOES training requirement in FY94 potentially stood at more than 104,000 (nearly 65,000 for the ARNG as compared with just under 40,000 for the USAR).

Table 2.15 takes the information presented previously pertaining to completion of NCOES (see Tables 2.13 and 2.14) and estimates potential training requirements in FY94 for specific courses (PLDC, BNCOC, and ANCOC).[28] It shows the percentages and total num-

[27]We examined how the backlog is distributed by time in grade. Most of the NCOES backlog is for soldiers who have been in grade for two years or longer. About 65,500 (69 percent) of the NCOs shown as "backlog" have been in grade for two years or longer. The remaining 29,000 (31 percent) have been in grade for less than two years. The percentages differ by component, with more members of the ARNG than the USAR backlog population holding time in grade of greater than two years.

[28]For example, the table determines requirements for PLDC based on E-4s who were promoted in FY94 and who have not completed PLDC in previous years, and soldiers

**Table 2.15**

**FY94 NCOES Requirements by Component and Course**

| Course | Number Promoted in FY94 | Number Received Course in FY93 | Number Need Course in FY94 | Number Need Course for Grade FY93 (backlog) | Total Needing Course FY94 |
|---|---|---|---|---|---|
| ARNG | | | | | |
| PLDC | 8,204 | 4,753 | 3,451 | 36,647 | 40,098 |
| | | 57.9% | 42.1% | | |
| BNCOC | 2,859 | 1,481 | 1,378 | 18,966 | 20,344 |
| | | 51.8% | 48.2% | | |
| ANCOC | 1,155 | 706 | 449 | 3,993 | 4,442 |
| | | 61.1% | 38.9% | | |
| Total | 12,218 | 6,940 | 5,278 | 59,606 | 64,884 |
| | | 56.8% | 43.2% | | |
| USAR | | | | | |
| PLDC | 4,132 | 1,787 | 2,345 | 14,685 | 17,030 |
| | | 43.3% | 56.7% | | |
| BNCOC | 2,456 | 613 | 1,843 | 13,627 | 15,470 |
| | | 25.0% | 75.0% | | |
| ANCOC | 777 | 276 | 501 | 6,532 | 7,033 |
| | | 35.5% | 64.5% | | |
| Total | 7,365 | 2,676 | 4,689 | 34,844 | 39,533 |
| | | 36.3% | 63.7% | | |
| Both | | | | | |
| PLDC | 12,336 | 6,540 | 5,796 | 51,332 | 57,128 |
| | | 53.0% | 47.0% | | |
| BNCOC | 5,315 | 2,094 | 3,221 | 32,593 | 35,814 |
| | | 39.4% | 60.6% | | |
| ANCOC | 1,932 | 982 | 950 | 10,525 | 11,475 |
| | | 50.8% | 49.2% | | |
| Total | 19,583 | 9,616 | 9,967 | 94,450 | 104,417 |
| | | 49.1% | 50.9% | | |

SOURCE: ARNG and USAR SIDPERS, November 1993 and 1994.

ber of personnel needing each course, in each component and category of training requirement (promotion versus backlog).[29] As

in grades E-5 who have not completed PLDC according to SIDPERS records. Eligibility for BNCOC and ANCOC is calculated similarly.

[29]Again, the base number for computing NCOES requirements is the number of soldiers required to have PLDC, BNCOC, or ANCOC because of impending promotion or because of their current grade.

shown earlier, altogether, more than 104,000 ARNG and USAR soldiers of grades E-4 through E-7 needed the NCOES required for promotion or current grade in FY94, according to Army personnel records. Here, we see that if all those soldiers were to complete the required course, the number of soldiers needing to complete training could be as large as 57,000 for PLDC, 36,000 for BNCOC, and 11,000 for ANCOC.

## RCTIs Can Meet the Promotion-Based, But Not the Backlog-Based, Part of the NCOES Requirement

We now compare the NCOES training requirement against the capacity of the RCTIs and once again analyze how much training capacity is available and how this is used to produce graduates of NCOES courses. We use the definition of training requirement established above, but for sizing purposes, we will combine the promotion-based and all backlog-based requirements into one estimate following the strictest definition of the requirement (around 104,000 soldiers in FY94).

Table 2.16 shows the amount of training available, in terms of courseware and course offerings in RCTIs, for the MOS-specific portion of NCOES—the BNCOC and ANCOC Phase 2 courses.[30] The left side displays the number of ARNG/USAR soldiers needing to complete BNCOC and ANCOC—47,289—which can be derived by adding the appropriate numbers in the final column of Table 2.15.

The middle columns show the number and percentage of soldiers needing BNCOC and ANCOC, and the number of associated MOSs, for which RC3 is available. As was true for reclassification training, RC3 is available to serve the great majority of soldiers with NCOES training requirements—85 percent of soldiers needing training in approximately 55 percent of the BNCOC/ANCOC MOSs (164 of 299 MOSs).

The right side of Table 2.16 shows the extent of BNCOC and ANCOC Phase 2 course offerings during FY94. Courses covering 73 different

[30]Courseware is available for NCOES courses taught during IDT. This training emphasizes leadership skill and is frequently referred to as "common core."

**Table 2.16**

**Availability of RC3 and Course Offerings by Functional Area**

| Functional Area | Soldiers Needing BNCOC and ANCOC | RC3 Available? Number of Soldiers Percent of Soldiers Number of MOSs No | RC3 Available? Number of Soldiers Percent of Soldiers Number of MOSs Yes | Status of Course when RC3 Available (Phase 2 Offered) Number of Soldiers Percent of Soldiers Number of MOSs Not Available | Status of Course when RC3 Available (Phase 2 Offered) Number of Soldiers Percent of Soldiers Number of MOSs Available |
|---|---|---|---|---|---|
| Combat Arms | 12,658 | 184 | 12,474 | 594 | 11,880 |
| | | 1.45 | 98.55 | 4.76 | 95.24 |
| | | 14 | 48 | 27 | 21 |
| Combat Support | 10,233 | 3,051 | 7,182 | 1,070 | 6,112 |
| | | 29.82 | 70.18 | 14.90 | 85.10 |
| | | 49 | 36 | 20 | 16 |
| Combat Service Support | 18,436 | 1,676 | 16,760 | 712 | 16,048 |
| | | 9.09 | 90.91 | 4.25 | 95.75 |
| | | 35 | 53 | 20 | 33 |
| Health Services | 3,766 | 178 | 3,588 | 1,276 | 2,312 |
| | | 4.73 | 95.27 | 35.56 | 64.44 |
| | | 2 | 26 | 24 | 2 |
| Other | 2,196 | 2,004 | 192 | 0 | 192 |
| | | 91.26 | 8.74 | 0.00 | 100.0 |
| | | 35 | 1 | 0 | 1 |
| Total | 47,289 | 7,093 | 40,196 | 3,652 | 36,544 |
| | | 15.00 | 85.00 | 9.09 | 90.91 |
| | | 135 | 164 | 91 | 73 |

SOURCE: ARNG and USAR SIDPERS, November 1993; RC-Trainnet, 1994.

specialty/skill level combinations were offered, encompassing less than half (44.5 percent) of the BNCOC and ANCOC classes that could be taught in an RCTI. Overall, then, courses were offered in skills relevant to 77 percent (36,544) of the soldiers needing to complete BNCOC or ANCOC.

While the courses seem to provide generally wide coverage (indeed, even wider than for DMOSQ), the availability of seats (quota allocations) remains an important measure of system capacity for NCOES training. Table 2.17 shows the NCOES requirement by course com-

pared to total availability of courses in ATRRS. Course availability is broken down by phase. During FY94, quota allocations were available for 38–60 percent of the overall NCOES requirement for each level of NCOES, with about 45 percent overall.[31] However, the capacity is not fully utilized; overall, 9.6 percent of these quota allocations are lost because of canceled or nonconducted classes, with BNCOC and ANCOC Phase 2 classes showing the most severe problems in this regard.[32]

Tables 2.18 and 2.19 show the capacity utilization and course production in the NCOES common core (Phase 1) courses. Most notable here is a very high reservation rate for PLDC, with a much lower

**Table 2.17**

**NCOES Training Requirement by Course, FY94**

| Course | Number Need NCOES | Quota Allocations (Classes) | Quotas Canceled (Classes) | Net Quotas (Classes) |
|---|---|---|---|---|
| PLDC | 57,128 | 25,841 (200) | 540 (35) | 25,301 (165) |
| BNCOC 1 | | 18,114 (1,348) | 2,151 (202) | 15,963 (1,146) |
| BNCOC 2 | 35,814 | 13,696 (843) | 2,129 (230) | 11,567 (613) |
| ANCOC 1 | | 8,766 (655) | 1,030 (111) | 7,736 (544) |
| ANCOC 2 | 11,475 | 6,922 (461) | 1,183 (135) | 5,739 (326) |
| Total | 104,417 | 73,339 (3,507) | 7,033 (713) | 66,306 (2,794) |

SOURCE: ATRRS School Aggregate file, November 1994.

[31]Quota allocations by course in relation to total requirement were as follows: PLDC (45.2 percent of total requirement); BNCOC 2 (38.2 percent); and ANCOC 2 (60.3 percent).

[32]In BNCOC Phase 2, 27 percent of the classes initially scheduled were canceled or nonconducted classes, resulting in the loss of 16 percent of initial quota allocations. The figures for ANCOC Phase 2 were 29 percent of classes canceled/nonconducted, resulting in 17 percent lost quota allocations.

number of inputs (indicating a large number of no-shows). On the other hand, BNCOC and ANCOC 1 each have a much lower reservation rate, but a larger number of inputs (indicating a large number of "walk-on" attendees). Hence, by the start of training, quota utilization is poorest in PLDC.

The "production" of the RCTIs (shown in Table 2.19) for these common core NCOES courses shows higher levels of attrition than were seen in the DMOSQ courses. Overall, slightly more than 37,000 individuals completed NCOES common core courses in FY94—an overall graduation rate of 85 percent. Hence, given the capacity utilization shown earlier, at the end of training, graduates fulfilled 70 percent of the initial quota allocations overall, with PLDC showing the smallest ratio of graduates to quota allocations.

**Table 2.18**

**RCTI NCOES Phase 1 Capacity Utilization by Course, FY94**

| Course | Quota Allocations | Reserved Seats | Ratio of Reservations to Quotas | Inputs | Ratio of Inputs to Quotas |
|---|---|---|---|---|---|
| PLDC | 25,841 | 23,807 | 0.92 | 19,859 | 0.77 |
| BNCOC 1 | 18,114 | 11,445 | 0.63 | 16,005 | 0.88 |
| ANCOC 1 | 8,766 | 5,331 | 0.61 | 8,026 | 0.92 |
| Total | 52,721 | 40,583 | 0.77 | 43,890 | 0.83 |

SOURCE: ATRRS School Aggregate file, November 1994.

**Table 2.19**

**RCTI NCOES Phase 1 Production by Course, FY94**

| Course | Inputs | Number of Classes Conducted | Mean Class Size | Graduates | Graduation Rate | Ratio of Graduates to Quotas |
|---|---|---|---|---|---|---|
| PLDC | 19,859 | 158 | 125.69 | 16,671 | 0.84 | 0.65 |
| BNCOC 1 | 16,005 | 948 | 16.88 | 13,801 | 0.86 | 0.76 |
| ANCOC 1 | 8,026 | 478 | 16.79 | 6,747 | 0.84 | 0.77 |
| Total | 43,890 | 1,584 | 27.71 | 37,219 | 0.85 | 0.70 |

SOURCE: ATRRS School Aggregate file, November 1994.

Finally, we examine capacity utilization and production in the MOS-specific (Phase 2) NCOES courses (Tables 2.20 and 2.21). We note that in FY94, there were 20,618 quota allocations established for these courses, at the same time as Army personnel records showed 47,289 soldiers who needed to complete these courses, given promotion- or backlog-based requirements. Hence, the planned-for capacity represented 44 percent of this total requirement. In turn, reservations were made against 66 percent of the quota allocations, and a slightly smaller number of inputs, 13,194 soldiers (64 percent of the quota allocations), used the available seats.[33]

As shown in Table 2.21, most attendees graduate from the Phase 2 courses—96 percent overall. Hence, for NCOES Phase 2, as we have seen earlier, there is a major problem with the utilization of existing capacity—in particular, with making reservations for and filling available quota allocations.

Altogether, then, taking all levels of NCOES into account, in FY94 the system produced 29,407 fully qualified NCOs (16,671 PLDC graduates, shown in Table 2.19, plus 12,736 BNCOC/ANCOC Phase 2 graduates, shown in Table 2.21).[34] This represents 63 percent of the

**Table 2.20**

**RCTI NCOES Phase 2 Capacity Utilization by Course, FY94**

| Course | Quota Allocations | Reserved Seats | Ratio of Reservations to Quotas | Inputs | Ratio of Inputs to Quotas |
|---|---|---|---|---|---|
| BNCOC 2 | 13,696 | 9,216 | 0.67 | 8,650 | 0.63 |
| ANCOC 2 | 6,922 | 4,494 | 0.65 | 4,544 | 0.66 |
| Total | 20,618 | 13,710 | 0.66 | 13,194 | 0.64 |

SOURCE: ATRRS School Aggregate file, November 1994.

[33]Note that the input into the BNCOC 2 and ANCOC 2 courses (13,194) is considerably smaller than the output from the Phase 1 courses (20,548 graduates, as shown in Table 2.19). This indicates that the "choke-point" for NCOES occurs at Phase 2, not earlier as many commonly assume.

[34]In addition, 20,548 soldiers completed Phase 1 of BNCOC and ANCOC, representing 76 percent of quota allocations established for these courses.

**Table 2.21**

**RCTI NCOES Phase 2 Production by Course, FY94**

| Course | Inputs | Number of Classes Conducted | Mean Class Size | Graduates | Graduation Rate | Ratio of Graduates to Quotas |
|---|---|---|---|---|---|---|
| BNCOC 2 | 8,650 | 574 | 15.07 | 8,309 | 0.96 | 0.61 |
| ANCOC 2 | 4,544 | 299 | 15.20 | 4,427 | 0.97 | 0.64 |
| Total | 13,194 | 873 | 15.11 | 12,736 | 0.96 | 0.62 |

SOURCE: ATRRS School Aggregate file, November 1994.

46,459 quota allocations established for these courses and about 28 percent of the overall NCOES requirement of around 104,000 (which, it may be recalled, includes about 10,000 promotion-based and 94,500 backlog-based requirements).

## Utilization of Training Capacity Can Be Improved

By way of conclusion, the requirements for DMOSQ and NCO training considerably exceeded the available training capacity in FY94. In this sense, RCTIs held no "excess capacity," especially for reclassification training, where the number of soldiers needing reclassification training (85,000) greatly exceeded the available training capacity of 31,000 seats for reclassification training. In NCOES, sufficient capacity existed to handle the promotion-based requirements (19,000 promotions as compared to 46,000 quota allocations for PLDC and ANCOC and BNCOC Phase 2). However, when the backlog of 94,500 previously promoted, not fully trained NCOs is taken into account, the total training need again overwhelmed the available seats.

In today's tight budget environment, it is hard to imagine that school system capacity could be increased. Hence, two avenues exist for improving the match between unit requirements for training and the ability of RCTIs to satisfy them. The first is to manage training requirements better by reducing the number of untrained soldiers and prioritizing training resources to areas of greatest need (i.e., ensuring

the "right" soldiers are sent to school).[35] A second approach is to ensure better utilization of training capacity. Previously, we noted problems with how existing capacity is utilized, with a high rate of canceled courses and unfilled seats in both DMOSQ and NCOES courses. Clearly, steps need to be taken to ensure that available capacity is used to full advantage, by reducing canceled classes and by decreasing the number of empty seats in the classes held.

[35] One example is to fully implement "select-train-promote" for NCOs, throughout the ARNG and USAR, in which only those soldiers selected for promotion are scheduled for training courses required for the next-higher grade. Another example is to provide reclassification training to only those soldiers who plan to remain in their duty MOS for a specified period (recognizing that some non-MOSQ soldiers will attrit or move to positions for which they are qualified).

Chapter Three

# QUALITY OF TRAINING

## BACKGROUND

The TASS initiatives were prompted largely by a perception of a highly variable quality of training in RCTIs. The DAIG's special assessment of RCTIs, for example, held that soldiers trained in RCTIs were not always trained to the same standards and that the AC did not do enough quality assurance in overseeing RCTI training. DAIG further noted that many of the RCTI courses had fewer tasks (compared to AC courses) and concluded that much RC courseware was outdated. It also stated that training support lacked consistency, in that training conducted in RCTIs was often diminished by lack of equipment, poor facilities, and unqualified instructors.[1]

Such perceptions were important in Task Force Future Army Schools–Twenty-One's (FAST's) objective to establish "fully accredited and integrated AC/ARNG/USAR schools that provide standard individual training and education for the Army."[2] Many of the key initiatives embodied in the TASS prototype were aimed at ensuring high and consistent standards of instruction in RCTIs. For example, TASS planned to transform RCTIs from multifunctional to specialized institutions, to functionally align RCTIs with TRADOC proponent schools,[3] and to develop formal procedures for accrediting RCTIs and certifying instructors.

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[1]See DAIG (1993).

[2]U.S. Army Training and Doctrine Command (1993).

[3]TRADOC proponent schools—e.g., the Armor, Artillery, and Signal schools—are institutions in the Active Component that are primarily concerned with a specific

To date, however, there is little quantitative evidence to establish the magnitude of problems that diminish overall quality or introduce unwanted variation in the RCTI training experience. Such information would be useful for assessing the effects of various quality-enhancement initiatives and for identifying options to improve the quality of training in the future.

## RESEARCH QUESTIONS

As in our other areas of research, we start by posing a global question: What problems exist affecting the delivery of instruction in RCTIs, and how extensive are they? We then examine this issue with respect to three elements of quality—courseware, support, and instructors[3]—formulating three specific questions in turn. For each element, we are interested in whether the element is *available* (on hand in sufficient quantities) and *adequate* (appropriate for conducting quality instruction to proper standards).

The first of these questions is: *To what extent do problems exist with POIs and courseware?*[4] Here, we are concerned that all courseware is available and adequate for the RCTI to deliver instruction that meets course objectives. Courseware should be current, technically correct, complete, and provided in sufficient quantities for the instructor to teach according to specified standards.[5]

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branch of the service. Proponent schools are responsible for developing doctrine, planning new systems, and developing training programs (among other things) in their branch areas.

[4]A POI is a staffing and planning document that outlines the contents of the course and the needed blocks of instruction and resources to execute the course. Courseware comprises the products actually distributed to an RCTI that outline course execution in detail and provide a full set of instructional materials. Courseware includes the following components: (1) course management plans/POI, which outline the tasks to be trained, the sequence of training, and general guidance on conduct of instruction, and list the support items, such as equipment, references, and training aids needed to execute the course; (2) instructor guides, which give detailed instructions on the conduct of blocks of instruction and include supporting items, such as overheads and handouts; (3) student guides, which give students an outline of the blocks of instruction and include support material, such as work assignments, practical exercises, and such other information as extracts from key references; and (4) test materials, which include both written tests and guidance execution of hands-on performance tests.

[5]As noted earlier, the Active Army develops and distributes POIs and courseware. Headquarters TRADOC is responsible for policy, proponent schools are responsible for developing courseware, and an agency of TRADOC, the Army Training Support

The second specific question—*To what extent do problems exist with support for training?*—is concerned with whether the instructor receives specific resources of the right kind needed to conduct instruction. These include equipment, training aids, supplies, references,[6] and ammunition that may be specified in the POI. Also included are facilities such as classrooms, ranges, billets, and messes needed at the location where instruction occurs.[7]

The third specific question—*To what extent do problems exist with instructor qualifications and performance?*—focuses on whether there are enough instructors who are expert in the subject matter and possess the teaching skills to deliver the needed instruction.[8]

## RESEARCH APPROACH AND DATA SOURCES

Unlike the analyses reported in the previous section, our training quality analyses could not rely on existing Army data sources. There are no national data systems, like SIDPERS or ATRRS, that measure or track the components of training quality described above.[9] Hence, as mentioned in Chapter One, we collected new data—in-

Center (ATSC), is responsible for production and distribution. RCTIs are responsible for ordering courseware and distributing it to instructors and students.

[6]References include field manuals, regulations, technical manuals, and similar official Army publications. They are similar to courseware in that most are developed by the proponent TRADOC school and used by the student in the classroom or training area. However, except for extracts found in instructor and student guides, references are not included in the courseware packages distributed by TRADOC and must be separately ordered by the school staff through different requisitioning channels; thus, they can be considered primarily a support item.

[7]TRADOC proponents are responsible for outlining the support items needed to conduct a course, and the school and its component chain of command are responsible for providing the support. If the support is not available, requests are supposed to be sent to agencies that can provide the necessary items.

[8]The chain of command of the component that conducts the school is responsible for ensuring that the school has sufficient instructors with the right background. The school itself is responsible for conducting instructor training.

[9]Beginning in 1993, TRADOC initiated a series of visits intended to assess and, where possible, accredit RCTIs. As part of this, teams composed of members with expertise in areas being examined assessed the areas of administration and operations, environment, resources, and conduct of training. The checklists from these visits provided some data that we will discuss later in this chapter. However, the checklists provided no data on courseware, and no quantitative data on instructor qualifications or on the adequacy of support for training.

cluding administrative reports from RC commands and RCTIs, questionnaires to RCTI instructors and students, and direct observations of training—that was focused on a manageable sample of RCTIs and courses. Below, we discuss the approach in more detail.

## Comparison Regions

Given the breadth and complexity of training conducted in the school system and given that detailed data were impractical to collect nationally, we focused this part of our data-collection effort on a smaller set of schools and courses from a smaller geographic area. For this effort, we selected Region C (the southeastern United States), where the TASS innovations were being implemented first. For comparison purposes, we selected Region E (the upper midwest)[10] for two reasons. First, compared to other regions, Region E was most like Region C with respect to the distribution of soldiers and RCTI course offerings. Second, over the two years of our assessment, it was not scheduled for any of the TASS management innovations established in Region C (i.e., integrated oversight, improved coordination, and functional alignment).[11] Thus, comparing Regions C and E allows us to compare the impact of the TASS innovations at baseline (FY94) and during implementation (FY95).

## Sample of Schools and Courses

Within these regions, we collected data from all RC commands (TAGs and MUSARCs) and all RCTIs. However, to get more detailed resource and quality data than was practical from even all Region C and E commands and schools, we decided to select a smaller sample of RCTIs and courses. The sample was designed to contain each type of RCTI and course selected for study.

[10]Region E contains the states of Minnesota, Wisconsin, Illinois, Indiana, Ohio, Iowa, and Michigan.

[11]The new management structures and coordination relationships would not be established before the end of FY95. For example, RCTIs would remain multifunctional in focus, and USARF schools would remain under the control of the local ARCOM.

RCTIs consist of the four types[12] discussed in Chapter One:

- U.S. Army Reserve Forces (USARF) schools;
- State Military Academies (SMAs);
- Regional Noncommissioned Officer Academies (NCOAs);
- Regional Training Sites for Maintenance (RTS-Ms).

**USARF schools.** These consist of multifunctional schools centrally commanded and funded by the USARC through its major subordinate commands. They conduct DMOSQ and BNCOC and ANCOC Phase 1 common core courses during IDT (weekend training). IDT missions are multifunctional and taught at dispersed training sites. DMOSQ (Phase 2) and NCOES MOS courses are taught during AT (two-week) phases. USARF schools generally offer a limited set of DMOSQ and NCOES courses at a primary location and at one or more secondary sites. Most USARF AT and IDT classes are conducted at temporary or borrowed training locations. Their staff is primarily organic, part-time (39-day) reservists supplemented by a few full-time personnel. Their instructors are primarily organic or part-time but are sometimes supplemented by temporary instructors borrowed from units for IDT instruction.[13] During AT, USARF schools cross-level instructors to provide the right mix of training specialties.

**SMAs.** These are also multifunctional schools commanded by the state TAG. The NGB approves SMA training missions, assigns some regional and national missions, and provides the funds to execute approved missions. SMAs teach a wide range of courses, including selected DMOSQ, special courses, MOS-specific NCOES courses, and

[12]There are other types of specialized schools, such as Reserve Forces intelligence schools and National Guard schools focusing on armor and aviation training. These were not selected for our study because of their smaller number and because they would not be as affected by TASS innovations.

[13]We use the term "borrowed" to refer to soldiers who are assigned to nonschool units but who work for the schools either as an alternative to working with their own units or by being paid to work additional days. The term "full time" refers to personnel who are either AGR, military technicians, or on long-term ADT orders; "part time" refers to ARNG and USAR soldiers who work for the schools primarily on a basis of IDT (24 days) and AT (two weeks).

some NCOES common core courses. The DMOSQ and NCOES MOS-related courses taught by a SMA generally involve fewer MOSs than those taught by a USARF school, since each state's SMA tends to concentrate on MOSs that are high density in the state. These RCTIs have a balance of organic full-time and part-time staff, which is sometimes supplemented by borrowed personnel. Their instructors are primarily borrowed from Table of Organization and Equipment (TOE) ARNG units, but there are some organic, part-time instructors. Most of their courses are taught at their own facilities, although some NCOES and DMOSQ training is done at unit locations.

**Regional NCOAs.** These are specialized schools, commanded and funded by either the NGB or USAR, whose primary mission is NCOES common core instruction. NCOAs teach almost all the PLDC and much of the ANCOC and BNCOC common core courses to RC soldiers. Their instructors and staff are primarily full-time or long-term borrowed personnel, and they teach almost all instruction at their own facilities.

**RTS-Ms.** These specialized RCTIs teach maintenance DMOSQ, MOS-specific ANCOC and BNCOC, and sustainment courses. Both the USAR and ARNG have RTS-Ms, although all the RTS-Ms in Region C are under the ARNG. Their staff and most of their instructors are organic or borrowed full-time personnel, and they conduct almost all instruction at their own training sites. Unlike SMAs and USARF schools, RTS-Ms own or borrow major equipment and maintenance simulators on a long-term basis. They conduct nearly all courses in a continuous mode rather than training on weekends.

Table 3.1 shows the specific institutions we visited in Regions C and E during 1994 within these four types of RCTIs.[14] (See Table 1.1 for the complete list of RCTIs in Regions C and E.)

RCTIs teach four primary types of courses:[15]

[14]During FY94, the RCTIs in Region C were in the process of transitioning from the "pure" school shown to functionally aligned brigades and battalions.

[15]In addition, RCTIs teach two other categories of courses that were not selected for study: (1) Officer Candidate Schools (OCS)—TRADOC-developed courses that train ARNG soldiers in required precommissioning tasks; and (2) special courses—TRADOC- and non-TRADOC-developed courses that teach special skills or tasks determined necessary by the Army or the RC chain of command.

**Table 3.1**

**15 RCTIs Selected for Detailed Assessment**

| | RCTI | |
|---|---|---|
| Type of RCTI | Region C | Region E |
| USARFs | Chamblee, GA<br>Charlotte, NC<br>Columbia, SC<br>Jacksonville, FL | Cincinnati, OH<br>Kingsbury, IN<br>Peoria, IL |
| SMAs | Georgia<br>Florida | Minnesota<br>Wisconsin |
| NCOAs | Leesburg, SC | Fort McCoy, WI |
| RTS-Ms | Fort Bragg, NC | Camp Ripley, IA |

- **DMOSQ.** TRADOC-developed courses that teach a set of tasks necessary for a soldier to be reclassified into a new MOS at initial skill level.
- **Common Core NCOES.** TRADOC-developed courses that teach basic leadership skills and are required for promotion. These are PLDC and BNCOC and ANCOC Phase 1 Courses.
- **NCOES MOS.** TRADOC-developed Phase 2 portions of BNCOC and ANCOC that teach MOS-related leadership and more advanced technical skills required of a leader. Completion of these courses is also required for promotion if available in the soldier's MOS.
- **Officer Education Courses.** TRADOC-developed Combined Arms and Services Staff School (CAS3) course that teaches staff skills to captains and the Command and General Staff Course (C&GSC) that teaches command and staff skills to majors and lieutenant colonels. Both courses are required for promotion.

Within the 15 selected RCTIs, we selected a sample of eight courses to represent the various categories of courses shown above (i.e., DMOSQ, NCO leader development and technical training, and officer education), across a range of functional areas (i.e., combat arms, leadership, combat support, combat service support, and health services). In addition, we selected a mix of courses that had both

high- and low-density student load requirements, high and low equipment requirements, and varying levels of technical complexity. The selected courses also had enough instructors and students planned during FY94 to provide a basis for assessing school system performance. TRADOC, the NGB, and USARC worked with us to develop the final listing of courses. The selected courses are shown in Table 3.2, along with the type of RCTI that typically conducts them.[16]

## Data-Collection Methods

Within these two regions, we used a number of methods and specially designed instruments to collect the information.

Table 3.2

**Eight Courses Selected for Detailed Assessment**

| Course Type | Course | Name | Functional Area | School Type |
|---|---|---|---|---|
| DMOSQ | 11M10 | Bradley Crewman | Combat Arms | SMA |
| | 71L10 | Administrative Specialist | Combat Service Support | USARF |
| | 91B10 | Medical Specialist | Health Services | USARF |
| | 95B10 | Military Police | Combat Support | USARF |
| Officer Education | CAS3 | Combined Arms Services and Staff School | Professional Development | USARF |
| NCOES Common Core | PLDC | Primary Leadership Development Course | Leadership | NCOA |
| NCOES Technical | 13B40 | Cannon Crewman ANCOC | Combat Arms | SMA |
| | 63B30 | Light Wheel Vehicle Mechanic BNCOC | Combat Service Support (Ordnance) | RTS-M |

[16]Altogether, we planned to visit 16 sites (one school for each course in each region). Given the schedule for AT and the timing of our visits, we were unable to visit the site teaching the 13B40 (ANCOC) course in Region C. Hence, we actually visited 15 sites.

**Administrative reports.** We contacted RCTIs directly for reports and data (all 44 in the two regions). These reports gave us a global view of institutional training problems and shortfalls. They provided information on the availability and completeness of material for conducting and supporting training, including courseware and other needed support, equipment and supplies, facilities, ammunition, and training aids, devices, simulators, and simulations. They also provided information on the availability and qualifications of instructors teaching in the training institutions, in both IDT and AT courses in FY94. Of the 44 schools in Region C (16) and E (27), 43 completed the reports—a 98 percent response rate.[17]

**Field visits and observations during AT.** We also visited the 15 RCTIs conducting the eight courses selected for detailed study. A RAND team visited one of each type of course in Region E and (as noted above) all but 13B40 (ANCOC) in Region C. Student and instructor questionnaires were administered during these visits (see below). After questionnaires were completed, the study team asked respondents for any additional comments and discussed issues raised in the questionnaires. They also observed instruction and compared the conduct of the instruction with courseware requirements.[18] Additionally, RAND staff discussed quality and other areas with school commandants and training staff.[19]

**Questionnaires administered to AT instructors.** The instructor questionnaires were intended to provide more depth on institutional training problems and shortfalls than the school reports. The questionnaires covered information about instructors' military back-

[17]These reports also reviewed the training programs for IDT and AT for FY93 and FY94, confirming the training program (e.g., the number of courses and classes held, student loads, throughputs, and so forth). These data were used to verify the accuracy of ATRRS data reported in the previous section.

[18]When observing a block of instruction, we compared execution to the requirements outlined in the instructor guide for that block of instruction. Instructor guides are an element of courseware that provide detailed information on how each block of instruction is to be executed, including manner of instruction, conduct of practical exercises, points to be covered, and required references, equipment, and training aids. Comparing class execution with these requirements was straightforward and allowed us to determine if the block of instruction was executed to these standards.

[19]Additionally, we visited and discussed training quality with Army subject matter experts at TRADOC Headquarters, TRADOC proponent schools, FORSCOM, NGB, USARC, and various state and MUSARC headquarters.

ground and experience (e.g., grade and time spent in the RC); data on their instructor training (e.g., whether and when they had taken instructor training courses and small-group leadership courses); their various teaching assignments in IDT and AT; and, for the courses taught most frequently in each of these modes, their assessments of the availability and adequacy of various training resources, including courseware, equipment, facilities, and other forms of institutional support for training. One hundred and twenty instructor questionnaires were completed (83 percent of the instructors on hand at the courses we visited).[20]

**Questionnaires administered to AT students.** These questionnaires provided additional assessments of training quality, from the student's perspective. Items addressed adequacy of courseware, support for training, and students' perceptions of the knowledge and ability of the instructors. Five hundred and thirty-one student questionnaires were completed (87 percent of the students attending the courses we visited).[21]

## KEY FINDINGS

### Overview

When we look across the three elements of quality, we see problems with availability and adequacy. In general, more problems were reported with courseware than with other elements. Respondents frequently reported that training materials did not arrive on time and in sufficient quantities. They also found courseware to be outdated and supporting materials (e.g., tests) to be both inadequate in quality and unavailable in sufficient quantities. Lack of training support (especially equipment) was commonly cited as an impediment to training, most acutely in USARF schools and in IDT. Instructor

[20]By type of course, the numbers of instructors providing completed questionnaires (and the percentage of instructors teaching this type of course) were as follows: 5 CAS3 (83 percent), 10 NCOES Phase 2 (77 percent), 66 DMOSQ (85 percent), and 39 PLDC (81 percent).

[21]By type of course, the numbers of students providing completed questionnaires (and the percentage of students taking this type of course) were as follows: 34 CAS3 (100 percent), 28 NCOES Phase 2 (97 percent), 280 DMOSQ (91 percent), and 189 PLDC (77 percent).

qualification and performance, while an area of concern in some courses, did not appear to be as large a problem. In contrast to this picture of generally competent instruction, simply locating enough qualified instructors was more of a problem for RCTIs.

Table 3.3 presents overall ratings from the RCTI administrative reports, in which RCTI commanders rated general training problems the school may have had in IDT and AT during FY94 that affected their ability to conduct effective instruction. (See Table A.1 in the appendix for the instrument used to collect these numbers.) Each item could be rated "minor," "moderate," "severe," or "not a problem." As shown in the table, RCTI commanders reported "moderate" or "severe" problems in eleven areas. Twenty to forty percent of the RCTIs pointed to the lack of key training resources (i.e., course material arriving too late, insufficient funding, and not enough qualified instructors and equipment). Generally, the RCTIs reported greater problems with the *availability* than with the *adequacy* of needed resources—courseware being a notable exception. According to the RCTI managers, the currentness of POIs and courseware was the dominant problem.

Table 3.4 summarizes responses from instructor surveys about training quality problems. (See Table A.2 in the appendix for the in-

**Table 3.3**

**Training Problems Reported by RCTIs**

| Problem | Percent Rating as Moderate or Severe |
|---|---|
| Course material outdated | 41 |
| Insufficient funding | 37 |
| Course material arrived too late | 31 |
| Not enough qualified instructors | 29 |
| Not enough equipment | 25 |
| Insufficient staff | 20 |
| Insufficient training aids | 19 |
| Course material of poor quality | 17 |
| Inadequate access to facilities or training areas | 17 |
| Insufficient ammunition | 10 |
| Instructors not knowledgeable | 7 |

NOTE: Based on responses from 43 RCTIs in Regions C and E.

**Table 3.4**

**Training Problems Reported by RCTI Instructors (During Annual Training)**

| Problem | Percent Rating as Somewhat or Very Inadequate |
|---|---|
| Course materials not complete | 38 |
| Inadequate student material | 33 |
| Inadequate test materials | 29 |
| POI not up to date | 25 |
| Insufficient amount of course material | 21 |
| Insufficient ammunition | 18 |
| Insufficient equipment | 17 |
| POI contains incorrect tasks | 13 |
| Insufficient training aids | 12 |
| Inadequate facilities | 8 |
| Inadequate supplies | 7 |

NOTE: Based on responses from 120 RCTI instructors.

strument used to collect these numbers.) Each item could be rated "very inadequate," "somewhat inadequate," "somewhat adequate," or "very adequate." Overall, the RCTI instructors reported problems in courseware adequacy and availability. To a lesser extent, they reported problems obtaining support items (i.e., ammunition and equipment). However, courseware was a greater problem than other forms of training support.

Given this overall picture, we now examine these findings in more detail.

## Current AT Instructors Meet Qualifications Standards

Although many in the Army community express concerns about the qualifications and performance of RCTI instructors, this was not a particular problem in the sample courses we examined. According to our surveys and observations, instructors were qualified and generally conducted instruction to the standards prescribed in the TRADOC instructor guides.

According to FORSCOM/TRADOC Regulation 135-3, the basic requirements for being an RCTI instructor are (a) completion of a

TRADOC-approved Instructor Training Course; and (b) for MOS courses (DMOSQ and Phase 2 ANCOC and BNCOC), qualification in the MOS being trained. According to self-reported information on the instructor questionnaires, 54 of 58 DMOSQ/NCOES instructors (93 percent) held the correct MOS, and 43 of 47 AT instructors (91.5 percent) reported they had attended an approved instructor training course.

The instructors in our sample were also fairly experienced. Table 3.5 shows grade levels of instructors as reported in instructor questionnaires. It indicates that on the whole they were senior; indeed, they hold higher grades than their counterparts teaching similar courses in the AC.[22] As can be seen, of 110 instructors responding to this question, 73 held grades of E-7 or higher (67 percent). In addition, they reported a high level of experience as instructors—an average of 70 months instructing in RCTIs.

Moreover, students seemed generally satisfied with their instructors.[23] Student questionnaires contained items that asked about the subject matter knowledge and teaching skills of instructors. As

**Table 3.5**

**Grade Levels of RCTI Instructors in Survey Sample**

| Course | E-5 | E-6 | E-7 | E-8 | E-9 | Total | Typical Grade in AC course |
|---|---|---|---|---|---|---|---|
| DMOSQ | 6 | 13 | 20 | 23 | 1 | 63 | E-5/6 |
| NCOES MOS | | | | | | | |
| 63B30 | 0 | 1 | 5 | 0 | 0 | 6 | E-6/7 BNCOC |
| 13B40 | 0 | 1 | 1 | 1 | 0 | 3 | E-7/8 ANCOC |
| PLDC | 2 | 14 | 18 | 4 | 0 | 38 | E-5/6 |
| All | 8 | 29 | 44 | 28 | 1 | 110 | |

NOTE: Based on responses from 120 RCTI instructors.

[22]These numbers include a small number of course managers who also did some instruction, which accounts for some of the E-8 and E-9 personnel.

[23]Our instructor surveys did not include any instructors who taught an IDT course but not an AT course. Because this group is missing from our instructor survey data, we cannot directly address the hypothesis that IDT instructors are less qualified than AT instructors. However, the data from student surveys (Table 3.6) do not indicate that these students saw much difference between IDT and AT instructors.

shown in Table 3.6, more than 80 percent of students rated the knowledge and instructional skills of their instructors as "somewhat" or "very" adequate, across the range of courses in which we conducted student surveys.[24]

Our own observations and discussions with various personnel experienced with RCTI instructors reinforced this picture of generally competent, qualified instructors conducting instruction to the standard required by the approved courseware. These views were also supported by the results of the TRADOC assessment and accreditation visits.[25] They showed that most (98.7 percent) RCTIs conducted prescribed instructor evaluations programs, that instructors were prepared for classes, and that classes were conducted in accordance with the POI in 92 percent of the cases.

**Table 3.6**

**Student Ratings of Instructor Knowledge and Ability (Percent rating area as somewhat or very inadequate)**

| Course | IDT Instructor Knowledge | AT Instructor Knowledge | IDT Instructor Ability | AT Instructor Ability |
|---|---|---|---|---|
| DMOSQ | 15 | 18 | 14 | 21 |
| NCOES Phase 2 | 13 | 3 | 12 | 6 |
| PLD | N/A | 3 | N/A | 5 |
| OES | 9 | 14 | 10 | 12 |
| All | 14 | 13 | 13 | 15 |

NOTE: Based on responses from 531 students. Of these, 235 students responded about their IDT experiences. The main reason for the smaller number of students responding about their IDT experiences is that three of the courses—11M10, 71L10, and PLDC, comprising 308 of the students responding—did not have an IDT phase.

[24]Student dissatisfaction was much higher in one of the DMOSQ courses than in the other courses we surveyed. In the remaining courses, students assessed the knowledge and ability of their AT instructors more favorably—only 12 percent and 17 percent of students, respectively, rated instructor knowledge and ability as "somewhat" or "very" inadequate.

[25]See discussion below for more detail on the TRADOC assessments.

## Problems Exist in Obtaining Enough Qualified Instructors

In contrast to this picture of generally competent instruction, simply locating enough qualified instructors was more of a problem for RCTIs.[26] As was shown earlier, 29 percent of the RCTIs overall described this as a moderate or severe problem. When we look at how these ratings differ according to the type of RCTI (i.e., USARF, NCOA, SMA, and RTS-M), we see (as shown in Table 3.7) that only the RTS-Ms reported no problem with locating instructors.[27] At the same time, only 3 of 41 RCTIs rated instructors as "not knowledgeable."

Our discussions with school staff and instructors, conducted during visits to AT, provide additional insights into problems associated

**Table 3.7**

**Ratings of Instructor Availability and Subject Matter Knowledge (Number citing a moderate or severe problem)**

| Problem | SMAs (N = 9) | USARFs (N = 21) | NCOAs (N = 3) | RTS-M (N = 7) | Overall (N = 41) |
|---|---|---|---|---|---|
| Not enough qualified instructors | 3 | 7 | 2 | 0 | 12 [29] |
| Instructors not knowledgeable | 0 | 2 | 1 | 0 | 3 [7] |

NOTE: Based on responses from 41 out of 43 RCTIs in Regions C and E. The bracketed number in the "overall" column represents percentage of respondents in relation to 41 RCTIs.

[26]In general, the lack of enough qualified instructors can cause two types of problems for RCTIs: (1) canceled courses or (2) reduced course quality because less-qualified instructors were used. As we saw in Chapter Two, 27 percent of the initially planned AT classes were canceled or not conducted. Most of the cancellations and nonconducted courses appear to be the result of a lack of students (39 percent of RCTIs reported that lack of students was a moderate or severe problem), but our discussions with school commandants and staff indicate that lack of instructors is also a key reason for canceling courses. This appears to be a larger problem for IDT than AT. We could not fully explore this issue, since ATRRS data does not require schools to enter the reason courses are canceled or nonconducted.

[27]A statistical test of the contrast between RTS-Ms and all other schools' responses is statistically significant (chi-square = 9.38, 1 degree of freedom) at $p < .01$.

with identifying and obtaining enough qualified instructors. In particular, schools and instructors reported that shortages of resources affected instructor training and preparation. This seems to vary by type of school. For example, RCTIs that had part-time instructors, a high volume of new instructors, and limited additional instructor man-days reported difficulty screening instructors and providing sufficient time for instructor preparation.[28] However, many RCTIs that had full-time instructors (and thus low instructor turnover) were able to conduct training programs for new instructors. These schools often had a new instructor understudy an experienced instructor for an entire course and conduct his first course under the close supervision of an experienced instructor.

Limits on available funds also made it difficult for instructors to do their own self-preparation and for schools to conduct effective quality-assurance programs. Schools rely on supplementary funds for additional man-days to augment full- and part-time staff. School personnel reported that funds for extra staff and instructor man-days and travel had been reduced and that this had affected their capacity to prepare for instruction. They also reported that lack of funds limited RCTI visits to dispersed IDT locations and that this was also a problem at AT, where lack of funds limited preparation. This was especially a problem when the POI had changed since instructors had last taught the course and they received new course materials only upon arrival at the AT site. It was also a problem at AT, where lack of funds limited preparation. Instructors reported that they frequently had to perform student in-processing rather than prepare for instruction.

As noted earlier, there were exceptions to positive student ratings of instructors, and this occurred primarily in a course where we found instructors who were not MOS-qualified or were recently reclassified into the MOS they were teaching. This supports the view of the schools that getting qualified instructors was a bigger problem than the abilities of qualified instructors.

[28]Schools worked around this potential problem by putting more experienced and known instructors on initial blocks of instruction. The fact that fewer students reported to AT courses than the schools were programmed to train provided a small surplus of instructors and allowed such adjustments.

## Courseware Is a Major Problem

In their responses, RCTI commanders and staff noted problems with both the availability and adequacy of courseware. Table 3.8 shows responses to the various items addressing courseware availability and adequacy, by type of school. All RCTIs reported having some problems in these areas. Many RCTIs reported problems with the currentness of courseware and with the timely receipt of course material. Other problems about the adequacy of the material were also reported.

For a closer view of courseware availability and adequacy, we turn to responses provided in instructor questionnaires in the course sample. These questionnaires included a number of items dealing with courseware, such as whether the courseware covered the tasks most needed to perform wartime duties, was up to date with current doctrine and equipment, and had adequate training materials and tests. As part of this, the instructors were asked to assess the adequacy of instructor and student support materials and the completeness of the materials they received. The questions were asked about both the AT/Phase 2 course (which we observed) and the IDT/Phase 1

**Table 3.8**

**Courseware Problems Rated as Moderate or Severe by Type of School (Number commenting)**

| Problem | SMAs (N = 9) | USARFs (N = 22) | NCOAs (N = 3) | RTS-M (N = 7) | Overall (N = 41) |
|---|---|---|---|---|---|
| Course material outdated | 5 | 9 | 1 | 2 | 17 [41] |
| Course material arrived too late | 1 | 11 | 0 | 1 | 13 [31] |
| Course material of poor quality | 2 | 5 | 0 | 0 | 7 [17] |
| Course material not complete enough for planning/coordination | 2 | 4 | 1 | 0 | 7 [17] |
| Instructor guide not complete | 2 | 3 | 1 | 0 | 6 [14] |

NOTE: Based on responses from 41 out of 43 RCTIs in Regions C and E. The bracketed number in the "overall" column represents the percentage of respondents in relation to 41 RCTIs.

course most commonly taught, if any (which we did not observe). Each item could be rated on a four-point scale, labeled "very adequate," "somewhat adequate," "somewhat inadequate," and "very inadequate."

Many of the questions asked of instructors were also asked of students, except for the adequacy of instructor support materials and the completeness of course materials. Instructor and student responses to courseware-related items are shown in Table 3.9.

As shown in the table, 45 percent of instructors pointed to problems with course materials being incomplete during IDT, with 38 percent noting similar problems in AT. Instructors also said that course materials were not available in sufficient quantities (32 and 21 percent of instructors reported this to be a problem during IDT and AT, respectively). With respect to the adequacy of the courseware used for instruction, many instructors said courseware was not up to date and student materials, instructor materials, and tests were inadequate—although they also said that the POIs contained the correct tasks needed for wartime. Most problems with quality of courseware were judged more acute in IDT than AT.[29] Student responses about courseware are similar (in rank) to their instructors'.

In our discussions with instructors, students, and staff, courseware was frequently criticized. Internal discrepancies—such as lack of agreement between instructor guides, student guides, and tests and lack of adequate coverage of how to conduct training—were cited as general problems, although the problem appeared to be much worse in some courses than others. Instructors also reported numerous instances where regulations, doctrine, or other references cited in the courseware had been superseded. In fact, a review of courses shows that almost two-thirds of RC3 products (252 of 399) have gone longer before being updated than the TRADOC goal of every three years.[30]

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[29]We also see some evidence that these problems are most acute in the DMOSQ and NCOES Phase 2 courses. These data are not presented here.

[30]The 399 includes RC3 products for all NCOES, DMOSQ, and ASI courses listed on the January 5, 1995 edition of RC-Trainnet (an electronic bulletin board containing information about RC training). The number has been adjusted to reflect the status as of the end of FY94.

Table 3.9

**Ratings of Courseware by RCTI Instructors and Students (Percent rating item as somewhat or very inadequate)**

| | IDT/Phase 1 courses | | AT/Phase 2 courses | |
|---|---|---|---|---|
| Problem | Instructors | Students | Instructors | Students |
| Adequate student material | 56 | 40 | 33 | 33 |
| Course materials complete | 45 | N/A | 38 | N/A |
| Up to date | 37 | 37 | 25 | 23 |
| Adequate instructor material | 32 | N/A | 20 | N/A |
| Sufficient course material | 32 | N/A | 21 | N/A |
| Adequate test materials | 28 | 27 | 29 | 23 |
| POI contains wartime tasks | 19 | 24 | 13 | 20 |

NOTE: Based on responses from 120 RCTI instructors and 531 students.

Our discussions with TRADOC personnel also confirmed that keeping courseware up to date was a major problem. Courseware could be categorized as updated even if updating was limited to a quick review followed by date revision. Also, given staffing and publication lags, the actual dates when courseware is updated can be a year or more later than the current availability dates. With the reduction of schools' budgets, funds and staff for courseware development have been greatly reduced in the past several years.

Many respondents also criticized the allocation of time to various blocks of instruction. Students often stated that too much, and in some cases too little, time was allocated for the tasks trained in the block. Inspectors from TRADOC and higher headquarters were seen as expecting the instructors to follow the prescribed schedule exactly. Given that most of the courses required longer than eight-hour days and working through weekends, it was vexing to students to see themselves spending additional hours without real purpose. The instructors agreed that courseware should allow the option of pacing instruction to the rate at which the students are able to progress through the material in the block of instruction.

During our observation of classes, we reviewed the student and instructor material and also found problems with courseware quality.

For instance, courseware commonly had student material with small print that was hard to read, sketchy instructions for conducting field training, blocks of instruction that contained more tasks than possible for the time allocated, and tests that stressed memorization of definitions rather than task performance.

## Other Support Problems Impede Quality Training

According to RCTI commanders and staff, the availability of training support, especially equipment, caused "moderate" to "severe" problems in providing IDT and AT instruction—more so than the availability of courseware (though the currentness of courseware was a dominant concern).

Table 3.10 shows the RCTIs' responses about problems with training support in various areas, by type of school. In particular, we see that USARF schools, which teach a greater percentage of DMOSQ and NCOES technical courses and teach at temporary AT training sites,

**Table 3.10**

**Support Problems Rated as Moderate or Severe by Type of School (Number commenting)**

| Problem | SMAs (N = 9) | USARFs (N = 22) | NCOAs (N = 3)[a] | RTS-M (N = 7) | Overall (N = 41) |
|---|---|---|---|---|---|
| Insufficient funding | 1 | 11 | 2 | 1 | 15 [37] |
| Not enough equipment | 0 | 9 | 1 | 0 | 10 [25] |
| Insufficient training aids | 0 | 7 | 1 | 0 | 8 [19] |
| Insufficient staff | 1 | 2 | 3 | 2 | 8 [20] |
| Inadequate access to facilities/training areas | 1 | 5 | 1 | 0 | 7 [17] |
| Insufficient ammunition | 1 | 2 | 1 | 0 | 4 [10] |

NOTE: Based on responses from 41 out of 43 RCTIs in Regions C and E. The bracketed number in the "overall" column represents the percentage of respondents in relation to 41 RCTIs.

[a]Note that only three NCOAs were surveyed. Given the small sample size involved, these results should be interpreted with caution.

reported greater difficulty in all support areas; specifically, 9 of 22 USARFs (41 percent) reported equipment as a greater problem than did other schools.[31]

The instructor and student questionnaires contain items asking them to describe the support they received during IDT/Phase 1 and AT/Phase 2 training. The items were facilities (such as classrooms and work areas); training aids (such as overhead projectors, computers, and VCRs); references; unit equipment (i.e., that found in a TOE unit); ammunition; supply items (such as POL and paper); and administrative support. For each item, the question was whether it was somewhat or fully adequate or somewhat or very inadequate for meeting the POI requirements. In addition, the instructors and students were asked to rate the adequacy of overall support.

Table 3.11 shows how instructors and students assessed the sufficiency of the indicated support items for IDT and AT instruction. Overall, these results indicate the following:

- Problems with support are rated as more severe in IDT than AT.
- Equipment and ammunition were rated as the greatest support problems by instructors, followed by references and training aids.
- Facilities were rated as the least important support problem.
- Students responses generally paralleled those of instructors, except that students saw support during AT as less adequate and support in IDT as more adequate than did instructors.

In addition, when we look at how responses differ by type of course (not shown here), we see some differences. Generally, support problems are rated as more severe in DMOSQ courses.[32]

[31]In fact, a statistical test of the contrast between USARF schools' and all other schools' responses on these items is statistically significant (chi-square = 6.98, 1 degree of freedom) at $p < .01$.

[32]In this area, our observations differ somewhat from those of TRADOC assessment and accreditation teams, who found few problems with course support. The highest-ranking problem these teams identified was availability of equipment required by the POI for NCOES common core classes, and this was rated as a "No Go" in only 2 of 34 classes inspected (6 percent). The same reports indicated that this shortage of equipment did not significantly affect training.

**Table 3.11**

**Ratings of Training Support by RCTI Instructors and Students (Percent rating item as somewhat or very inadequate)**

| | IDT/Phase 1 course | | AT/Phase 2 course | |
|---|---|---|---|---|
| Problem | Instructors | Students | Instructors | Students |
| Equipment | 46 | 40 | 17 | 27 |
| Ammunition | 43 | 32 | 18 | 23 |
| References | 40 | 28 | 17 | 22 |
| Training aids | 40 | 27 | 12 | 27 |
| Supplies | 35 | 31 | 7 | 24 |
| Administrative support | 23 | N/A | 10 | N/A |
| Facilities | 13 | 12 | 8 | 11 |

NOTE: Based on responses from 120 RCTI instructors and 531 students.

Our observations of courses and discussions with students, instructors, and staffs reinforced the conclusions derived from the RCTI administrative reports and the instructor and student surveys. While facilities were not a problem overall, they were at certain posts. For example, non-air-conditioned World War II barracks in July in Georgia are not conducive to learning. RTS-Ms and NCOAs with permanent facilities had far better facilities.

Analysis of the instructor and student questionnaires (Table 3.11) indicates that support problems were generally more severe for IDT courses, even though IDT courses are designed to have reduced support requirements. The picture we received in our visits and discussions was one of instructors having to obtain necessary support with very little assistance from their school.

Funding and time limitations had evident effects on course support. All RCTIs, and especially USARF schools, rely on a "pull" system to get support items such as equipment and spare parts. Requests must go to different agencies, and sometimes the school must locate the source and arrange transportation to move it to the training site. Methods for getting support are often informal or ad hoc rather than systematic. This represents a significant workload for school staffs. In most cases the system was eventually obtaining needed support.

but it appeared to be straining very hard to accomplish its missions. Additional reductions in staff or funding levels could significantly aggravate this situation.

Time limitations also posed problems. For example, most instructors and staff arrived the same day as the students, and the size of advance parties had been reduced. School staff and students at several AT courses commented that training had been disorganized at the start of AT because of these limitations.

## Overall, Courses Were Conducted to TRADOC Standards

To this point, our data indicate that problems exist with the availability and adequacy of courseware and training support. At the same time, our observations revealed few problems with instructor qualifications or with the quality of training delivered. Hence, the overall picture is one where RCTIs and instructors are struggling to make "training happen," but once in execution mode, the training is generally conducted well.

Some further evidence for this view is provided by the data generated by TRADOC during assessment and accreditation visits. As mentioned in footnote 32, during 1993 and 1994 personnel from TRADOC headquarters and proponent schools conducted assessment and accreditation visits to RCTIs throughout the United States.[33] During these visits, a standardized checklist was used to inspect both school administrative practices and the conduct of instruction. During accreditation visits, schools were rated as "Accredited," "Withhold Accreditation," or "Non-accredited," based on the results of this inspection.

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[33]Accreditation visits were conducted at 77 RCTIs (21 state academies, 5 ARNG regional academies and 3 regional schools, 1 RTS-M, 3 USARF academies, and 44 USARF schools). Additionally, assessment and assistance visits were conducted at 6 ARNG state academies, 1 ARNG regional school, and 6 USARF schools to evaluate the conduct of courses and staff performance. During these assessment and assistance visits, the teams assessed 381 courses (37 common core NCOES courses, 151 Phase 2 NCOES courses, 179 DMOSQ courses, and 14 OES courses). Formal accreditation visits were conducted at 307 of these courses (25 common core NCOES courses, 125 Phase 2 NCOES courses, 147 DMOSQ courses, and 10 OES courses).

A rating of Withhold Accreditation is given when a school receives a "No Go" for one major administrative category or for a course item, but it is judged that the school can take corrective action within 60 days. These schools' commandants must report correction within 60 days or the rating changes to Non-accredited. A rating of Non-accredited is given when a school receives a "No Go" in more than one major area or when the school cannot take corrective action within 60 days.

During 1993 and 1994, 77 RCTIs underwent accreditation evaluations. Of these, 84 percent were accredited, 13 percent had accreditation withheld, and only 3 percent were nonaccredited. The breakout by school type is shown in Table 3.12.

During accreditation visits, 307 classes were inspected for course accreditation. Of these, 87.9 percent of courses were accredited, 8.1 percent had accreditation withheld, and 3.9 percent were not accredited.

Poor course evaluations were almost exclusively in courses with MOS-specific training requirements; all the nonaccreditation ratings and all but one of the withhold ratings occurred in this type of course. Of 125 NCOES Phase 2 courses, 6 were nonaccredited and 10 had accreditation withheld. Of 147 DMOSQ courses, 6 were nonaccredited and 14 had accreditation withheld. All OES courses were accredited, and only 1 of 25 NCOES common core courses had accreditation withheld.

**Table 3.12**

**Results of TRADOC Accreditation Visits to RCTIS in FY93–94**

| Type of School | Total Number | Accredited | Withhold Accreditation | Non-Accredited |
|---|---|---|---|---|
| USARF | 44 | 36 | 6 | 2 |
| RTS-M | 1 | 1 | 0 | 0 |
| ARNG StateMilitary Academy | 21 | 17 | 4 | 0 |
| ARNG Regional Academy | 5 | 5 | 0 | 0 |
| USARF Academy | 3 | 3 | 0 | 0 |
| ARNG Regional School | 3 | 3 | 0 | 0 |
| Total | 77 | 65 | 10 | 2 |

Our own visits to RCTIs supported the findings of the TRADOC-conducted assessments. The courses we observed were almost always conducted to the standard outlined in TRADOC directives and guidance. Also, the students we interviewed felt the courses they were attending—while in all cases needing some level of improvement—were improving their ability to perform in their jobs and were being conducted adequately for them to learn.

Chapter Four

# RESOURCES AND COSTS OF TRAINING

## BACKGROUND

As mentioned in Chapter One, defense downsizing and reductions in available resources established the need to shrink the Army's training infrastructure and reduce the costs of training. To many in the Army, the three school systems managed by the AC, ARNG, and USAR appeared duplicative in many instances, providing similar courses in multiple locations. In addition, the seeming complexity of the system suggested that consolidation and streamlining could save resources and lower the cost of training. These views were driven by a number of observations, some backed by reports from the DAIG,[1] about resources and costs in the RC school system:

- The RC school system contains a large number of schools (perhaps more than is needed), with underutilized capacity and apparent duplication of course offerings.
- RC schools make extensive use of borrowed resources, including manpower and equipment, requiring extensive staff time to coordinate.
- No mechanism exists for systematically tracking all the resources (organic and borrowed) used by RCTIs, making total resource use, total cost, and relative efficiency impossible to determine.

[1] DAIG (1993).

- Without some handle on total resources and costs, the link between resources and efficiency, resources and requirements, and resources and training quality cannot properly be made or managed.

Concerns like these led to the belief that reorganizing and consolidating the RC school system would yield both increased efficiency and substantial dollar savings.

Unfortunately, the Army has limited capability to assess inefficiencies that may exist in the present RC school system and to determine the prospects for improving efficiency and achieving dollar savings. Figure 4.1 diagrams support relationships for RC institutional training. What distinguishes the RC system (and makes costs and resources so difficult to track) is the large amount and undocumented nature of support that comes from RC units (because of the borrowing of manpower and equipment) and the large number of training locations used. By contrast, AC training makes relatively little use of nontraining units and typically occurs on a single training installation collocated with the school headquarters.

Figure 4.1 encompasses the three classes of production activities that drive the cost of the entire RC training system: (1) *training delivery*, the process of setting up and conducting training (i.e., student activities and school mission activities); (2) *training development*, the process of designing what and how training is to be delivered (e.g., developing RC3 courseware); and (3) *training support*, the process of managing and supporting training delivery and support, including installation support activities and command management of the training process.

When we speak of "total costs" in this report, we are addressing most but not all of the support diagrammed in the figure. Included is the entire cost of training delivery (including the cost of borrowed resources), installation support, and selected support costs (e.g., the cost of course material duplication and distribution); together, these costs represent the vast majority of the costs and are most pertinent to the concerns addressed in this study. We do not deal with some costs that are indirect to these concerns, such as support originating from TRADOC, including training development, or management and

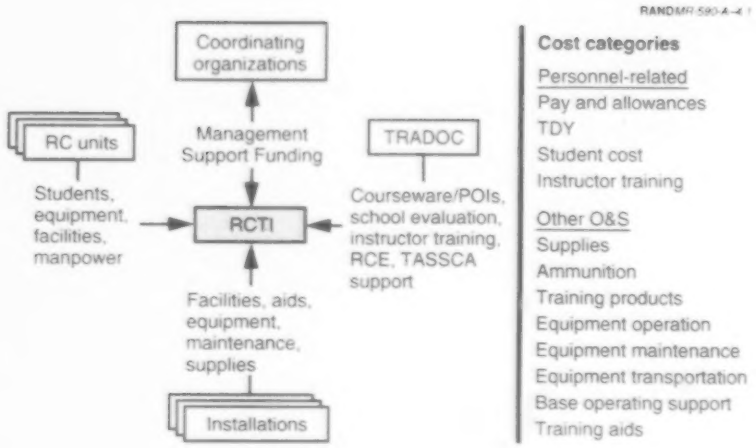


**Figure 4.1—Process for RC Institutional Training**

support from major commands (i.e., support from TAG andMUSARC level, and support from the RCE and the Total Army School System Coordinating Activity, TASSCA); we also do not deal with the part of the training system that identifies students who need training and matches them to schools and courses, nor with selected items of indirect support to training, including the cost of depot maintenance and medical support.

## RESEARCH APPROACH

To measure RC resource use and calculate RC training costs, we divided the RC training activity into four resource areas and four funding sources.[2] These, in turn, were considered in terms of the four types of schools discussed earlier.

[2]In constructing these categories, we do not attempt to identify the types of organizations, the component, or the detailed budget funding account; introducing those complexities would have unnecessarily complicated the research.

## Resource Areas

**Student manpower.** This resource area includes the pay and allowances of students while attending a course, the retirement accrual associated with the pay, travel costs to the training site, and (when allowed) per-diem costs associated with travel.

**Training manpower.** This resource area includes the military and civilian pay and allowances of RCTI instructors and support staff, retirement accrual associated with the pay, travel costs to the training site,[3] and (when allowed) per-diem costs associated with travel.[4] Note that because we combine military and civilian pay, our categories do not line up with the normal appropriations structure in defense budgets, which accounts for military pay under "Military Pay and Allowances" and civilian pay under "Operations and Maintenance."

**Mission operations and support.** This resource area includes supplies and materials associated with the implementation of training—some in the OPTEMPO area (e.g., POL, maintenance, and repair parts), others in the non-OPTEMPO area (e.g., self-service supply center, SSSC); temporary duty (TDY) resources associated with schools; contracts and leases associated with training (except those having to do with installation support, which are included in the fourth resource area); ammunition used in training exercises; and the resources used in courseware reproduction and distribution.

**Installation support.** This resource area includes the resource requirements of facilities (both manpower authorizations and budget dollars), covering both base operations and real property maintenance activities. These activities, which are well documented in the DoD accounting system under specific program elements, include installation supply operations, maintenance of nontactical equipment, transportation services, laundry, food service, personnel sup-

[3]A small amount of travel costs to training sites, particularly to IDT training sites, is included under TDY, which we included under the next area, "mission operations and support."

[4]Note that the cost of military and civilian manpower is typically separated in the DoD budgeting system. In the budgeting system, the cost of military personnel is included under the personnel appropriation, while the cost of civilians is included under the operations and maintenance appropriation.

port, housing operations, utilities, maintenance and repair of real property, minor construction, engineer support, resource and records management, contracting, and security operations.

## Funding Sources

We also identified four broad funding sources associated with the resource areas.

**TDA authorizations.** Most Army personnel costs derive from the funding of established Modification Table of Organization and Equipment (MTOE) or Table of Distribution and Allowances (TDA) manning structures that distribute Army end strength to particular Army units. RCTIs have a TDA structure that includes the specification of a given number of authorizations. We include the normal[5] pay and allowances[6] of such personnel under "TDA authorizations."

**Personal time.** When part-time TDA personnel work extra, unpaid days to accomplish their school's training mission, we include the number of days or their equivalent dollar value under "personal time."

**Unit training dollars.** When nonschool military personnel contribute part of their AT or IDT training periods to the support of schools (we call these "borrowed man-days"), we say that those days, as well as the installation support and normal supplies and materials required to support those days, are funded out of "unit training dollars." The term derives from the assumptions that (1) all authorized soldiers train a normal 39 days per year (or 260 for full-time Active Guard and Reserves, AGRs); (2) the dollar cost of those days, as well as the support those soldiers receive while training on those days, is sunk once end strength is determined (and for the purposes of this analysis); and (3) the default use of those days is for unit training.

**Supplemental dollars.** Any student or training manpower days that represent additional training periods for the soldier (beyond the 39-

[5]"Normal" means the pay and allowances for their IDT and AT training. We do not include here any extra pay they receive for working extra duty.

[6]We include both the military pay and allowances of TDA personnel, and for those who are also "military technicians," we include their civilian pay and allowances.

day commitment), as well as the installation support and normal supplies and materials required to support those days, are funded out of "supplemental dollars." The Army accounting system categorizes the personnel portion of these costs as Active Duty for Training (ADT) student support and either ADT or Active Duty for Special Work (ADSW) staff support to schools. These are discretionary budgeted dollars in that they are a matter of individual TAG and MUSARC funding policy and not fixed by the decision of a component's end strength; thus, they are "supplemental" from the point of view of the schools involved and represent a net-dollar increase to the Army because of the conduct of training.

### Interaction Between Resource Areas and Funding Sources

To understand how the resource areas interact with the funding sources, consider how "training manpower" can be provided in RC training. As in all Army units, a significant amount of training manpower is funded by "TDA authorizations" and by military technicians assigned to schools. To supplement their TDA manpower, many RCTIs also borrow instructors or staff from nonschool units to teach or support courses. Because supporting the school prevents these personnel from training with their unit, this funding is called "unit training dollars." RCTIs also supplement manpower when TDA personnel work extra, unpaid hours—called "personal time." Finally, training manpower is sometimes funded by allocating "supplemental dollars" to pay part-time RC soldiers to work extra periods beyond their 39-day commitment.

### School Type

We grouped RCTIs into their four organizational types: USARF schools in the USAR, SMAs, RTS-Ms,[7] and regional NCOAs. Within these groups there are enough similarities, and among them enough differences, that comparing their training support requirements can yield considerable insight into an RC training system's efficiencies.

[7]In our analysis, we confine ourselves to Regional Training Sites for Maintenance (RTS-Ms). In addition to RTS-Ms, other regional training sites cover such functions as medical and intelligence. We also exclude training at centralized facilities for combat engineering and aviation, because those facilities lie outside the regions under study.

## Research Questions

Given this division of the RC training activity, we asked the following global question: What resources are used, what do they cost, and what problems or inefficiencies exist? We further divided the global question into more specific questions:

- What is the total cost of conducting training in RCTIs?
  - What resource areas are the major contributors?
  - In each resource area, what are the funding sources?
  - In each resource area, how are total costs managed?
- What are the sources of inefficiencies in the system?

## Performance Indicators

To answer these questions, we used three basic indicators of cost and efficiency, aggregated to the "school type" level of detail: man-days, cost, and training manpower days per student training day. "Man-days" are used to measure the number of student days of training (the number of students[8] multiplied by the length of each class, summed over all classes taught by a school) and the number of training manpower days (military or civilian, organic and nonorganic, paid and unpaid) used to support the school's mission.

"Cost" is the dollar value of supplies and materials, TDY, contracts, and leases used by schools to support their mission. In addition, in the computation of "Total Cost," man-days are converted to their equivalent dollar value.

"Training manpower days per student training day" is defined as training manpower days (both instructor and staff, organic and nonorganic) used by the school divided by the number of student days produced, and is a used as an indicator of school efficiency.[9]

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[8]The number of students in a class is defined as the midpoint between inputs and graduates. The measure assumes students who enroll in a class but do not graduate attend for half the length of the class on average before dropping out.

[9]As it relates inputs to outputs, "training manpower days per student training day" is one measure of school efficiency. However, absent established manpower staffing

## Data Sources

Although existing data systems, such as ATRRS and the financial records of funding agencies, were important to our data-collection efforts, they were not sufficient to get at the performance indicators needed to conduct the analysis. Thus, the major source of our information about schools was a set of special reports obtained from the schools in Regions C and E, supplemented by surveys from our course sample and additional sources to cross-check and fill in missing data. Below we describe the information collected, by major data source.

**ATRRS reports.** These reports provided the information on student inputs and graduates for each class of each school (with corrections and updates provided by the RCTIs); these data enabled us to compute student days.[10]

**RCTI administrative reports.** Of the 44 RCTIs asked to fill out administrative reports (discussed earlier in Chapters One and Three), 27 returned usable information for the cost analysis. These surveys provided information about the number of full- and part-time military personnel and civilian personnel actually working at the school during FY93 and FY94. (See Table A.3 in the appendix for an example of an instrument used to collect these data.) In addition, RCTIs provided information about the number and type of borrowed and paid-for man-days supporting the school, as well as information about the location of training.[11]

**Course surveys and site visits.** The RCTIs involved with the 15 sampled courses (discussed earlier in Chapters One and Three) provided

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standards for schools, we lack a formal benchmark for judging the efficiency of Region C and E RCTIs. Moreover, that benchmark, if it existed, could vary according to the training mission of each school. The effort required to support, for example, IDT versus AT courses or combat arms versus leadership courses, varies dramatically, and different RCTIs have different responsibilities for those missions. Absent sufficient data for a multivariate analysis, our approach was to first focus on the relative efficiency of alternate school organizations, then factor in the effect of differing training missions.

[10]These data were drawn from the same FY94 ATRRS institutional file used for our analysis of training requirements and school delivery of courses.

[11]These reports were part of a package sent to RCTIs in Regions C and E, which include the assessments of training quality discussed in the previous chapter.

data in four areas: (1) a student form that listed all students enrolled in the course by grade, component, pay status, and distance traveled to training (see Table A.4 in the appendix for an example of an instrument used to collect these data); (2) a training manpower form that provided the same information for training manpower as for students and added information about the source of the manning (from the school or another unit), the function of each person in supporting training (e.g., instructor, operations, administration, logistics), and the number of courses the person supported (see Table A.5 in the appendix for an example of an instrument used to collect these data); (3) an equipment form that listed all Class VII equipment used in the course, along with the OPTEMPO and source of that equipment; and (4) a financial form that listed all supplies and materials, contracts, and leases involved with conducting the course.

We sent the schools involved a blank set of these forms before we visited them and then either filled out or verified them during visits. In addition, the data collected for each form were discussed with on-site personnel to ensure proper interpretation.

**Student and instructor questionnaires.** These questionnaires (531 from students and 120 from instructors, described in Chapter Three) also collected information about unreimbursed travel expenses, as well as verified the pay status of students. It also asked about pay status for students during the IDT phase of their training.

**TAG and MUSARC administrative reports.** Financial data were provided by ten of eleven TAGs and by seven of seven MUSARCs in Regions C and E about the cost of (1) supporting schools in Regions C and E and (2) sending students under their command to training, regardless of where attended. The cost of supporting schools was provided on two forms, one for personnel costs and one for nonpersonnel costs. Personnel cost data provided a cross-check against RCTI-provided information, on the number of TDA positions filled at the school, and on the amount of supplemental manpower purchased by the schools. (Financial systems, of course, do not contain documentation of manpower borrowed from nonschool units or from another component.) (See Table A.6 for an example of an instrument used to collect these data.)

The nonpersonnel cost form recorded the operations and maintenance (O&M) and other support costs of supporting schools. Usually, this required special effort to obtain the data, since most cost information is not aggregated to the school level of detail.

Commands whose system did not allow collection of the data or that were unable to provide sufficient data were excluded from the analysis. Findings were used from about half of the 44 schools in the regions in most cost areas. Because of the large number of training locations involved per school and the difficulty of determining for any given installation the portion of the cost that could be attributed to specific schools (given the large number of other installation users), we could not obtain accurate information on the installation support of schools.

The cost of sending students to school within a command was recorded for two pay statuses: ADT (schools' money), and Alternative AT (unit training money). While the amount and purpose (e.g., for MOS or NCOES training) of ADT information was readily available, the amount and distribution of Alternative AT money usually required special data collection, if it could be obtained at all.

As with the course survey, the accuracy and interpretation of data from TAGs and MUSARCs was discussed in site visits to more than half of the command centers.

**Major USAR and ARNG commands.** The USARC and NGB were asked to provide information on personnel cost factors (e.g., average cost of an AT day), as well as school TDAs. They were also consulted about the interpretation and source of data.

**Other sources.** Other sources included the Army Training Support Center (ATSC), which provided information on the duplication and distribution of courseware, and 1st U.S. Army, which supplied instructor and staff assignments for Region E. In addition, personnel and equipment OPTEMPO-based factors were provided by the Army's Cost and Economic Analysis Center (CEAC).

## KEY FINDINGS

Following an overview of the key findings, we answer each of the research questions individually in more detail. We first view total cost

and its components together and then examine each resource area individually in terms of its size, its funding source, and how it is managed. Finally, we examine potential sources of inefficiency within the system and how those issues might be addressed.

## Overview

Results of the resource analysis highlight the salient features of the RC training activity. First, RCTI training is overwhelmingly a personnel-driven activity; training manpower and student costs account for 87 percent of our total RCTI cost. Second, nearly half of the total cost of operating RCTIs is paid for out of unit training dollars, that is, from man-days, supplies, and other resources set aside for unit training in nonschool organizations. These costs are "fixed" in that they support the 39-day-per-year training allotment that follows from the setting of Army end strength. This large contribution of unit training dollars is driven by two facts. First, for most RCTI students (more than three-fourths), school training replaces rather than supplements unit training. Second, nearly 10 percent of instructor and school staff man-days to operate RCTIs are "borrowed" from nonschool organizations, who forgo those man-days for use in collective training.

Given these characteristics, as well as the large unmet training requirement documented in Chapter Two, we conclude that attempts to improve school efficiency should not look for dollar savings, but should instead focus on the more effective use of RCTI training manpower. As stated above, other training costs are a small proportion of the total or fixed by Army end strength. In fact, we calculate that only 20 cents of every dollar spent on RC training constitute a net-dollar cost to the Army from the operation of the schools, and most of that amount is devoted to the purchase of supplemental training man-days from part-time military personnel.

Focusing specifically on RCTI use of manpower, we conclude, first, that the existing training manpower could support a significantly larger student load. To cite an upper bound, if one assumes that schools are resourced to train the quotas allocated to them, then RCTIs fill only 67 percent of initial quota allocations (for DMOSQ). (See the previous discussion on training requirements and school delivery of courses in Chapter Two.)

Second, using information from 27 of the 44 RCTIs in Regions C and E, we found that specialized schools operated more efficiently than multifunctional schools. To make this assessment, we compared the amount of school "input" (school instructors and staff) to the production of school "output" (students), defining manpower efficiency as the ratio of "training manpower days" to student days. Using this measure, we found that the so-called multifunctional RCTIs (USARF schools and SMAs) required nearly twice as much support—87 training support days per 100 student training days—as the specialized RCTIs (regional NCOAs and RTS-Ms), which required only 48 training support days per 100 student training days, based on data collected from RC commands and schools in Regions C and E.

While some of the variance can no doubt be explained by factors decisionmakers cannot alter (e.g., training complexity),[12] the difference in training manpower usage is large enough to warrant closer examination of the differing characteristics of specialized and multifunctional schools. Results of this baseline analysis suggest that the following changes may lead to efficiency gains in the RC system: increased school consolidation and specialization, a greater use of full-time or long-term support personnel and instructors, a decreased use of short-term borrowed manpower, more secure access to equipment and training aids, fewer training sites, and a greater use of fixed sites or sites with established support relationships. Further analysis ought to reveal the relative importance of these changes in improving school efficiency.

We now examine each of these findings in detail.

## RCTI Training Is Personnel-Driven

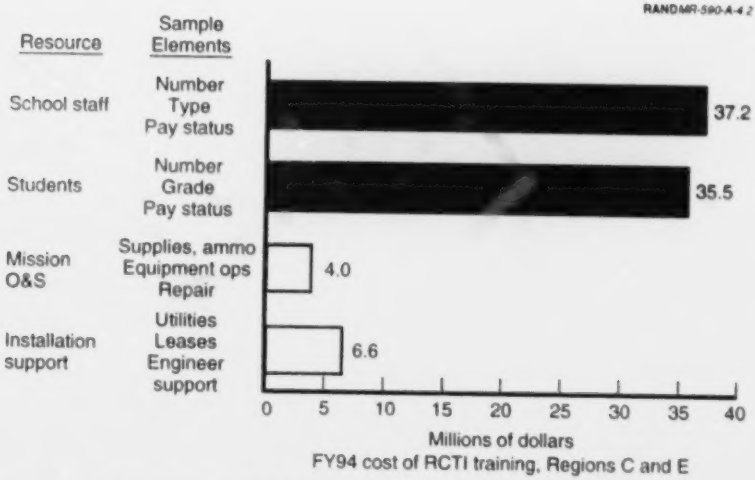
When we look across RC training in Regions C and E across the four resource areas discussed earlier (see Figure 4.2), we see that personnel costs (represented by the top two bars—training manpower and student manpower—dominate the $83 million total cost of training (the sum of the four bars in the figure). In fact, the two resource areas account for 87 percent of the total cost. Mission O&S and instal-

[12]There are additional factors that differentiate specialized from multifunctional schools, which are discussed later in the section (see Table 4.1).

lation support account for only 5 percent and 8 percent, respectively, of the total cost.

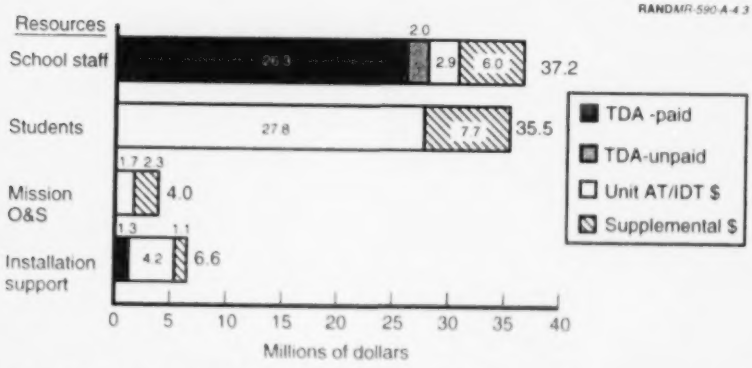
## TDA Authorizations and Unit Training Dollars Account for Most System Resources

When we divide the bars representing the four resource areas into the funding sources that contribute to them (see Figure 4.3), we see that two segments—school TDA authorizations and unit training dollars—dominate. When we add like funding sources across resource areas, we see that nearly half (45 percent) of the total cost is paid for out of unit training dollars, that is, funds required for IDT and AT of Army end strength. This result is driven by the result that 78 percent of student dollars represents attendance at individual training in lieu of (rather than in addition to) training with their units.




SOURCE: TAG/MUSARC administrative reports, RCTI administrative reports.

**Figure 4.2—Total Cost of RCTI Training in Regions C and E by Resource Area**




SOURCE: TAG/MUSARC administrative reports; RCTI administrative reports; course surveys, student/instructor questionnaires.

**Figure 4.3—Total Cost of RC Training in Regions C and E by Resource Area and Funding Source**

## The Net-Dollar Cost of Training Is Small, But Changes Could Be Expensive

Because unit training dollars are fixed once end strength is determined, they represent sunk dollar costs to the Army. Similarly, although soldiers filling TDA positions might be assigned to nonschool positions, their cost is also fixed once end strength is determined. In fact, only $17 million of the $83 million total training cost shown in Figure 4.3 (or 20 percent) constitutes a net-dollar cost to the Army (represented by the supplemental-dollars portions of the bars in the figure) after the normal costs of end strength are determined. The implication of these results is that a reorganization of RC training is more likely to effect a savings in manpower authorizations than a dollar savings in the Army budget.

Another implication of these results is that the impact of changing training load on the Army budget will critically depend on how the change is funded. If a change is designed to be consistent with current funding patterns, then changing training load will have only a small dollar impact on the Army budget. For example, if students in-

volved in an increase in training load mostly attend school training in lieu of unit training, and if RCTIs effect an increase in training manpower days by borrowing instructors and enlarging existing training periods (rather than purchasing additional instructor time and funding supplemental training periods), then the dollar cost of an increased training load will be small.[13] In contrast, if funding patterns are not maintained during a change, the dollar cost of change could deviate sharply from the current average cost. For example, if additional NCO training meant full supplemental funding for students and instructors (because NCOs' presence at unit training was critical) and supplemental training events, then the incremental cost of funding a training expansion could be several times greater than the average cost.

We can also use Figure 4.3 to illustrate (presented in more detail later in this chapter) that management of training resources as a whole is fragmentary and not integrated, leading to potential inefficiencies in the total training system. The reason is that while some of the funding pots are quite closely managed (e.g., TDA manning at schools and supplemental dollars for students and school staff), other pots (e.g., training funded with unit training dollars) have little visibility and no management at the school level.

Below we examine key findings in each of the resource areas and funding sources in greater detail, beginning with student manpower.

## Unit Training Dollars Fund Most of Student Costs

As mentioned above, the net-dollar costs to the Army of RCTI training are far less than the total cost. This is especially true for student costs, where more than three-quarters (78 percent) of the student training days were funded with unit training dollars (IDT or AT funds).[14] Since IDT pay and AT pay are sunk costs once end strength is determined, the incremental dollar costs of sending students to

[13]However, the practice of borrowing student, instructor, and support man-days from unit training time has "costs" in terms of unit readiness.

[14]The basis for this estimate was the 15-course AT survey (involving 531 student responses) we conducted in summer FY94; although this is a small sample upon which to base an estimate, it is the only data available specific to RCTIs.

school is the ADT pay only. Therefore, the net-dollar cost of adding student load, or, conversely, the net dollar savings from cutting student load, averages only about $20 per student day of the $90 per day spent in the category.[15]

The net-dollar implications of changing RCTI training load vary widely by type of training, by component, and by the funding policy of local commands. Based on course surveys and visits from our 15 sampled courses, students were much more likely to receive supplemental funds for AT (39 percent) than for weekend training (2 percent).[16] Further, ARNG students were somewhat more likely to receive ADT funds (43 percent) than were USAR students (34 percent), and those in professional development courses much more likely (64 percent) to receive it than those receiving reclassification training (9 percent).

## The Use of AT Training Is Increasing

Between FY93 and FY94, unit training increasingly became the bill-payer for school training. Table 4.1 shows that while total spending for training for Region C and E students[17] remained constant across the two fiscal years (about $31 million), the amount of unit training funds used for school training (called "Alternate AT") increased significantly for both the USAR and ARNG. (Combining the two, Alternate AT went from $5.7 million in FY93 to $7.7 million in FY94, an increase of 34 percent.)[18]

Because of the mingling of AT and ADT funds, a decrease in ADT (schools) funding usually means both less school training and less unit training. When school funding cannot meet total requirements,

[15]Of the $83 million spent on training for Regions C and E, $36 million is for student costs. With nearly 400,000 student days funded, the cost averages out to $90 per day.

[16]We obtained information about the use of ADT funds for weekend training by asking students attending AT about their experience attending IDT. The percentages are based on the reported pay status of 587 students in the 15 surveyed courses. The data were obtained from administrative records of the school conducting the course.

[17]These students attended both AC and RC schools, both inside and outside Regions C and E.

[18]ADT dollars are so much higher than AT dollars primarily because of students attending AC schools with ADT dollars.

**Table 4.1**

**Trend in Funding Source for RC Students in Regions C and E ($ millions)**

| Fiscal Year | Component | Alternate AT | Schools (ADT) | Total |
|---|---|---|---|---|
| FY93 | USAR | 2.77 | 6.88 | 9.65 |
| | ARNG | 2.97 | 18.65 | 21.62 |
| | Total | 5.74 | 25.53 | 31.27 |
| FY94 | USAR | 3.44 | 4.31 | 7.75 |
| | ARNG | 4.24 | 19.33 | 23.57 |
| | Total | 7.68 | 23.64 | 31.32 |

SOURCE: TAG/MUSARC administrative reports.

some soldiers will either have to delay their school training or compromise their unit training. For the USAR, Table 4.1 shows that total school training decreased about 20 percent,[19] supporting the idea that some students delayed individual training to train with their unit. Unit training should also decrease, since some soldiers will presumably forgo unit training to complete their individual training requirement. Our survey of students in the 15 sampled courses supports the notion that this behavior occurs: 32 percent of the students attending school in Alternate AT status said they were also available to attend unit training but were told funds were not available.

Commands carefully manage ADT funds—what units get them and for what types of training.[20] But total funding for RCTI students (like that portrayed in Table 4.1) is much less closely watched and managed, because the amount of alternate AT or IDT funding is not routinely calculated. As a result, the effect of decreasing ADT dollars on RCTI training loads, and on unit DMOSQ and NCOES requirements and unit readiness, cannot be assessed.

[19]Budget forecasts suggest that the decrease may be for only one year, since ADT monies rebound to near their FY93 level. However, other data suggest there has been a real decrease in the period before FY93.

[20]For example, the ARNG will reimburse states for expenditures for PLDC and for maintenance training at RTS-Ms.

## TDA Authorizations Fund Most Costs of Training Manpower

As shown in Figure 4.3, RCTIs obtain training manpower man-days from all four funding sources. As with typical Army units, most school man-days (69 percent) originate from personnel assigned to TDA positions that come out of total end strength. An additional 5 percent of total man-days are unpaid extra days worked by TDA staff. In addition to the contribution of TDA staff, 9 percent of RCTI workload is performed by personnel borrowed from other units working in AT or IDT pay status; again, those man-days are a sunk cost to the Army, once end strength is determined. Finally, 16 percent of total man-days come from part-time personnel getting paid for extra duty.

If the cross-leveling of manpower among schools is also considered, the amount of personnel shifting is greater than that implied above. Some RCTIs swap TDA manpower to balance their distinct IDT and AT training missions. While cross-leveling can represent significant shifting at the level of the individual school (which includes lending their own TDA personnel as well as borrowing from others), most of it nets out at the aggregate level of this report.

If average funding patterns are a fair representation of what will happen at the margin, increasing training load will have a relatively small net-dollar impact on the Army budget. Since 16 percent of man-days come from the purchase of supplementary man-days (as Figure 4.3 shows) and training manpower costs total about $130 per day,[21] the net-dollar cost of additional training manpower is $21 per day (0.16 × $130).

## TDA Man-Days Are Structured Differently by the Different School Types

TDA manpower consists of part-time military personnel, full-time military personnel (AGRs), and full-time civilians (typically "technicians" who are also part of the part-time military force). How different types of schools structure TDA man-days is shown in Table

[21]Of the $83 million spent on training for Regions C and E, $37 million is for training manpower costs. With nearly 286,000 training manpower days funded, the cost averages out to $130 per day.

4.2. Regional NCOAs and RTS-Ms use primarily full-time staff, and SMAs use a mixture of full- and part-time military personnel and civilians. Only USARF schools rely primarily on part-time staff, reflecting the relatively greater importance of the IDT mission in USARF schools.

## The Use of TDA Versus Borrowed and Purchased Man-Days Differs Significantly by School

Borrowing from nonschool units occurs for both instructors and staff and at both the schools' home location (when the schools are able to bring in general support from other units in their command area) and at the location of nonschool units (when units provide extra support for instructors traveling to their location to train their soldiers). These days represent "free" and valuable additional support to schools (except that instructors may require funds for instructor training courses prior to the course); but because they are not documented as school support in the financial system, determining total school support is nearly impossible without course-by-course monitoring.

Dollar-funded staff, an additional and well-documented form of school support, are obtained by hiring part-time military personnel for extra days (beyond their normal commitment) to instruct or sup-

**Table 4.2**

**Distribution of TDA Man-Days by School Type in Regions C and E**

| Type of School | Part-time Military Number of staff (% of total) | Full-time Military Number of staff (% of total) | Full-time Civilians Number of staff (% of total) | Total |
|---|---|---|---|---|
| USARF | 5,851 | 0 | 723 | 6,574 |
| | (89) | (0) | (11) | |
| SMA | 2,946 | 1,227 | 2,024 | 6,137 |
| | (48) | (20) | (32) | |
| NCOA | 845 | 12,956 | 282 | 14,083 |
| | (6) | (92) | (2) | |
| RTS-M | 56 | 5,437 | 112 | 5,605 |
| | (1) | (97) | (2) | |

SOURCE: RCTI TDAs; RCTI administrative reports.

port training. Schools typically look first to their own part-time staff to work extra periods (since using organic staff for extra periods will not involve travel expenses), but they also draw on other schools and nonschool units, especially for instructors. Some schools add to their full-time staff by purchasing personnel for long-term "179-day ADT tours," sometimes at less cost than AGRs because the same level of benefits is not included.

Table 4.3 shows that the use of TDA versus borrowed and purchased man-days differs significantly by type of RCTI. USARF schools rely most heavily on TDA manpower, with paid and unpaid days of TDA personnel representing about 90 percent of all training manpower support.[22] In contrast, other types of schools obtain 33–47 percent of their man-days from non-TDA manpower. However, only SMAs

**Table 4.3**

**Distribution of Training Support Days by Source for RCTI Schools in Regions C and E**

| | Organic | | | | |
|---|---|---|---|---|---|
| Type of School | Paid Number of staff (% of total) | Unpaid Number of staff (% of total) | Dollar-Funded Number of staff (% of total) | Borrowed Number of staff (% of total) | Total |
| USARF | 5,259 (80) | 657 (10) | 329 (5) | 329 (5) | 6,574 |
| SMA | 3,191 (52) | 61 (1) | 1,412 (23) | 1,473 (24) | 6,137 |
| NCOA | 9,436 (67) | 0 (0) | 4,647 (33) | 0 (0) | 14,083 |
| RTS-M | 3,363 (60) | 0 (0) | 1,906 (34) | 336 (6) | 5,605 |

SOURCE: RCTI administrative reports.

[22]However, if the cross-leveling of manpower among schools is also considered, the amount of personnel shifting is greater than that implied above. USARFs swap manpower to balance their distinct IDT and AT training missions; USARF schools in the sample lent an average of 9 percent of their available TDA man-days to other schools and borrowed 6 percent of the TDA man-days of other schools.

rely on a significant percentage of borrowed manpower—24 percent of their total.

Among schools other than USARFs, 23 to 34 percent of all manpower is purchased. In state academies, most purchased man-days are for short periods (less than 20 days), with a large number of personnel hired to participate in a single course. However, in regional NCOAs and RTS-Ms,[23] most purchased man-days are for a few personnel supporting many courses for an extended period of six months or more during the year.

The current tight budget environment has led to a decrease in dollar-funded man-days in USARF schools and SMAs. Specifically, staff support decreased 7 percent in FY94 from the FY93 level for SMAs and 40 percent for USARF schools.[24] The data suggest that USARF schools partially made up for that decline with unpaid hours of TDA staff. In addition, as discussed in Chapter Three, RCTIs also report a significant problem with insufficient funding to meet their training mission.

## Supplementing Manpower Can Be Efficient Up To a Point

The RCTI practice of supplementing manpower can be efficient when employed to balance variation in training loads or avoid expensive travel. For example, cross-leveling allows balancing of local IDT missions (which demand that instructors be dispersed) and regional AT missions (which tend to focus manning at a particular site). Allowing part-time school personnel to moonlight can save the travel cost of bringing in support from elsewhere. Similarly, providing local support for instructors traveling to students' unit location can save the expense of having school support personnel travel with instructors.

[23]RTS-Ms differ significantly in how they use purchased manpower—some use predominantly a few personnel for a long period, while others use a large number of personnel for short periods.

[24]Current budget estimates at USARC suggest the decline may not be permanent.

However, after providing for reasonable flexibility, the use of temporary manpower reduces efficiency at the schoolhouse.[25] Finding the manpower and providing them support when they arrive can use up valuable staff time. Further, some borrowed instructors have to be trained before they are qualified to teach. Moreover, because temporary instructors must receive the same instructor training course as long-term instructors, they provide only a small return on investment. Finally, obtaining temporary manpower often involves significant travel and per-diem expenditures.

Total training manpower cannot be managed above the level of the RCTI, because the extent of borrowing is not visible to the commands in any systematic way. Even much of the cross-leveling of personnel within USARF schools occurs after the initial assignments by CONUSAs. As a result, how effectively a school or group of schools is performing cannot be readily assessed, nor can the effectiveness of management actions that change manning. For example, reducing TDA or cutting ADSW might appear to save positions or dollars, but may only have resulted in an increase in borrowing in a way detrimental to unit training.

The lack of information about borrowed manpower led the DAIG to conclude that the cost of RCTI could not be determined. Clearly, obtaining a handle on this information would be a requirement for establishing some sort of staffing standards (like those in the AC) from which to base school resourcing decisions and to judge school performance.

We now turn to key findings in the area of O&S costs.

## The Net-Dollar Cost of O&S Mission Support Is Smaller

As shown in Figure 4.3, O&S mission costs for Region C and E RCTIs in FY94 amount to $4.0 million (only about 5 percent of the total training costs). This percent of the total is as small as it is primarily because the RC-configured courses we examined in Regions C and E

[25]Holding end strength constant, the use of temporary and purchased manpower in training allows a larger TOE force structure. We do not judge whether this "benefit" is worth the cost of inefficiency at the schoolhouse.

rarely involve the operation of expensive equipment and extensive ammunition use.

Table 4.4 shows the detail of O&S mission costs by type of school. (We were not able to obtain these data for regional NCOAs.) The costs are shown at the level of average costs per school. SMAs and RTS-M sites had roughly twice the costs of USARF schools, the former because they conduct more combat arms (CA) courses (and thus use more ammunition), and the latter because they conduct primarily equipment repair courses, requiring significant parts and POL. Courseware reproduction and distribution costs, while not identifiable by type of school, were estimated (using the eight examples in the course sample) to be about $16 per student averaged over all courses.

Although O&S mission costs are completely dollar-funded in the budget, only a fraction of those costs represent a net-dollar increase to the Army budget. This conclusion derives from our perspective that Army end strength is fixed when dealing with training policy, and that every soldier, whether student, instructor, or school staff, will get a minimum of 39 training days a year, whether associated with schools or not. Therefore, when students train in Alternate AT or Alternate IDT status and expend ammunition in field training exercises and expend POL and repair parts in the operation of equipment, that cost is offset by their not expending those resources while

**Table 4.4**

**Mission O&S Costs Per School ($)**

| Cost Element | All RCTI | USARFs | SMAs | RTS-M |
|---|---|---|---|---|
| Supplies and Material | 27,700 | 17,800 | 25,000 | 62,500 |
| TDY | 10,700 | 12,700 | 5,600 | 11,500 |
| Ammunition | 19,200 | 10,000 | 52,700 | None |
| Contracts and Leases | 9,800 | 5,200 | 19,400 | 10,400 |
| Courseware Distribution | 13,300 | N/A | N/A | N/A |
| Other | 4,100 | 2,600 | 5,700 | 6,800 |
| Total | $84,700 | $48,300 | $108,400 | $91,200 |

SOURCE: TAG/MUSARC administrative reports.

training with their unit. It is only when students train extra periods (in ADT pay status) that such costs represent a net increase to the training budget.[26]

We estimate that 55 percent of the O&S costs represent a net-dollar increase to the Army budget. (This is the supplemental-dollar portion of the bar in Figure 4.3.) While this estimate is much more unstable and open to interpretation than our comparable estimates about personnel costs, even if the amount is off by 50 percent, our general conclusion will still hold—the supplemental dollar costs of O&S are a small percentage of total training cost.

## Most O&S Funds Are Centrally Managed and Not Identifiable to the Schools

In part, because the costs are typically small, they are difficult to compile. Most are centrally funded in much larger commands, are not part of a school's budget, and are not readily identifiable in the accounting system as a school expense. For example, most schools do not have Class IV repair parts accounts because (except for RTS-Ms) they have no equipment. As a result, the cost of repair parts is ultimately charged to support organizations[27] or to the units from which the equipment was borrowed. When we asked funding organizations to identify repair parts costs of schools, they themselves often admitted that what they could identify would be an underestimate. As a result, we often ended up estimating a higher figure.[28]

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[26]The "net dollar cost" calculation was made as follows: 22 percent of students (those attending in ADT status) expended 100 percent of O&S costs. The remaining 78 percent of the students (those attending in AT/IDT status) only expended 45 percent of the total costs. The extra costs from training were TDY, contracts and leases, and courseware. The costs offset by the students not having to attend training with their unit were supplies and materials and ammunition.

[27]These include mobilization and training equipment site (MATES) or unit training equipment site (UTES) in the ARNG, equipment concentration sites (ECS) in the reserves, and direct support/general support (DS/GS) maintenance organizations on larger bases.

[28]To make the estimate, we used the ratio of POL costs (which can be identifiable to schools much more reliably) to repair parts costs in the course sample. Since in the course sample, repair parts costs averaged twice POL costs, we used that relationship as a minimum for schools. If a TAG or MUSARC listed repair costs as less than twice POL, we increased the repair parts cost to twice POL costs.

We now turn to the key findings in the installation support area.

## The Current Extent of Equipment Borrowing May Not Be Efficient

Although it may appear to be an O&S cost issue, only a fraction of the cost of borrowing equipment ends up in the O&S cost category. In fact, most of the costs end up in the training manpower category. Only RTS-Ms have a significant portion of equipment they require for training on their TDA and under their control. All other RCTIs must borrow equipment using the 156-R process.[29] The resources involved in borrowing equipment are primarily the manpower required in finding, coordinating, and moving the equipment. In our course sample, we found no examples of schools paying for commercial transportation, although this may not be the case in other courses.

Because major end-items of equipment are only required for selected RCTI courses and, in other than RTS-Ms, only for limited periods of time, it probably makes sense to borrow them. However, the same conclusion may not hold for other items of equipment. In general, the efficiency of borrowing equipment depends on a comparison of the costs of owning (cost of purchase and maintenance) versus the cost of borrowing (cost of movement and coordination).

While we were not able to make an in-depth study with our course sample, the results of our surveys suggest that the schools borrow far more than is efficient. During AT, it was not unusual for schools to dedicate several people to transporting equipment to and from its source, even small items. The checking out and checking in process also appeared to consume excess resources. Finally, the complexities of coordinating and getting many items of equipment from multiple sources to the right place at the right time led to equipment shortages or training delays that affected the quality of training.

[29]The 156-R process is the process for resolving AT equipment shortfalls for RC units. FORSCOM Form 156-R is used to identify equipment required for AT and to document where each item will come from prior to the beginning of the course.

## The Net-Dollar Cost of Installation Support Is Small

To assess the cost of installation support (base operations and real property maintenance activities—see the full definition under the "Research Approach" section above), we turned (as discussed in the beginning of this chapter) to factor estimates produced by CEAC. From CEAC's figures, we derived a rate of approximately $10 incremental cost per person day, estimating that total costs for Region C and E in FY94 were approximately $6.8 million (as shown in Figure 4.3). However, we estimate that only 21 percent (the percent attending in ADT pay status) of those costs represent net additional costs to the Army (as represented by the cross-hatched portion of the bars in Figure 4.3). This is based on the assumption that students attending training in an AT or IDT status would incur much the same expense if they were training with their unit instead of going to school. While this assumption is open to challenge, reasonable alternative assumptions do not change the conclusion that supplemental cost of installation support is a small portion of total cost.[30]

## Installation Costs Are Not Identifiable to the Schools

Installation accounts are managed at the installation level by functional account, but are not identifiable to particular schools. Unlike in other resource categories, simply going to the detailed level offered by taking a sample of courses does not clearly identify the costs. Installations support a wide range of activities, and identifying that portion resulting from any one activity (e.g., an RCTI) is currently still a difficult task and the subject of a number of ongoing research studies by the Army and the Defense Department. Further, the large number of training sites and the many different types of installations (see further discussion below) and funding mechanisms complicate the computation of installation support costs for RCTI training.

[30]The incremental cost figure assumes that training sites are not opened or closed due to RCTI training activity. If changes in the training system were made that opened or closed bases, installation support costs would become much more significant.

## Most Schools Use Multiple Sites for Primary Training Areas

Because RC trainers often go to students rather than the other way around, RCTIs typically use a large number of different sites to conduct training. Table 4.5 shows the number and distribution of training sites used by RCTI in Regions C and E. The table considers only the major training sites, upon which a minimum of 10 percent of the students are trained.

USARFs use the most sites—four to five major training sites per school—whereas SMAs conduct much more training at home station and thus use two to three sites. RTS-Ms show an average of three sites per school, but the mean is misleading. About half use only their home station, and the remainder use a large number of installations for only a small percentage of their workload. Finally, regional NCOAs conduct all training at their home station.

The right-hand side of Table 4.5 shows that RCTIs often go to other components' installations to conduct training. Active installations are often used for AT training by both USARF schools and SMAs, and USARF schools tend to use ARNG bases and civilian installations for much of their training.

**Table 4.5**

**Number and Distribution of Major Training Sites by Type of School in Regions C and E**

| School Type | Average Number Sites per RCTI | Average Distance to Home Station (miles) | Percent Distribution of Sites by Ownership | | | |
|---|---|---|---|---|---|---|
| | | | U.S. Army | USAR | ARNG | Civilian |
| USARF | 4.6 | 90 | 14 | 43 | 26 | 16 |
| SMA | 2.5 | 165 | 17 | 4 | 75 | 4 |
| NCOA | 1.0 | | 0 | 50 | 50 | 0 |
| RTS-M | 3.0 | 235 | 5 | 5 | 90 | 0 |

SOURCE: RCTI administrative reports.

NOTE: Percentages are based on 129 sites for USARF schools, 24 for SMAs, 2 for regional NCOAs, and 13 for RTS-Ms.

The major efficiency issue in this area concerns the number of installations on which training is conducted and the number of times RCTIs have to set up for training. Using a small or large number of existing training sites does not change the average installation support cost per student, but it does require significant school manpower for the coordination required to arrange and conduct training. Instead of having a longstanding relationship with the one installation on which the school resides (as is true for most Active schools), RC schools have to establish and maintain multiple relationships, and often with new places, as training sites can change from year to year. In addition, not only do RC schools have to use management resources for coordination, they also often use extra organic mandays to fulfill installation support functions (e.g., food service) that cannot be provided by the installation itself. Because they have to create the support for at most a few classes, they lose the economies of scale a large base can capture.

Because RC training is a dispersed system, it will always use multiple installations to conduct training. However, within the context of ensuring that training is available to all students without having to incur significant travel costs, the fewer number of installations, and the more consistency that can be established by developing long-term relationships, the more efficient the result will be.

## Sources of Inefficiency in RCTI Training

To this point, we have focused on resources without reference to output. However, to make judgments about efficiency, one must compare resource use with the quality and quantity of the output produced. In this subsection, we will examine a measure of RCTI efficiency: the ratio of training manpower days used by schools to the student days they produce. We will then factor in other elements that determine cost, particularly travel costs.

Before applying the measure, we need to explain the factors that influence its value. "Training manpower days per student day" for RCTIs is a function of the following:

- **Training mission:** that portion of the training requirement the school is expected to satisfy. More complex training missions specify smaller student-to-instructor ratios or require more man-

days to provide training support, equipment, training devices, or facilities. For example, the IDT mission will require a different type and level of support than the AT mission, and the more technical DMOSQ mission a greater level of support than the common core leadership mission.

- **Specialization (or school design):** the degree to which the school specializes in a subset of courses within a functional area (e.g., Combat Arms courses within the DMOSQ mission) versus the degree to which the school teaches a wide range of different courses (i.e., is multifunctional in design). If one assumes a fixed set-up time to prepare to teach a course and common set-up tasks for similar types of courses, the more a school can specialize, the less the fixed cost of preparing.
- **Size:** the number of classes (and training days) a school can offer within a year. To the extent training demand can support them, larger schools can gain economies of scale because of the fixed support costs of setting up training. If schools generate enough workload to conduct continuous courses, additional start-up costs can be saved by using full-time (instead of part-time) instructors and staff.
- **Support arrangements:** how manpower, equipment, supplies, ammunition, and installation support are provided to the school. The more readily available these resources and the fewer and more established the contacts for obtaining them, the fewer training manpower days are required to coordinate their use for training.
- **Capacity utilization:** the degree to which schools can capitalize on the resources they have at their disposal to produce the maximum number of trained soldiers. Capacity is wasted when, for example, instructor-to-student ratios or instructor-to-support staff ratios are less than optimum or when courses are canceled or nonconducted.

Because of the large differences between AC and RC schools, a comparative examination usefully illustrates the effects of the factors discussed above. Large differences in the RC versus AC training environments lead to dramatically different school designs and, in turn, to different ratios of training manpower input to student input. First,

while the AC can centralize training nationally in each functional area, the RC part-time environment requires dispersed training, whereby most classes (especially IDT classes) must be offered within the region of the students' home station. Dispersed training accommodates the nature of RC training but leads to a loss of the scale economies of specialized and centralized training, smaller schools, smaller class sizes, much more variation and less predictability in school training loads, and the need for a large number of decentralized support bases.

Second, while the AC can offer a continuous course of any length and a continuous series of courses, the RC is confined to a time-segmented environment of monthly weekends and yearly two-week periods. In that environment, a course of training often cannot be conducted in one continuous period (as it is in the AC); instead, it has to be broken up into multiple short-term segments. Because more training support is needed during the beginning and end of a training period than during the middle, noncontinuous training means greater overall support required. Further, noncontinuous classes will lead to more attrition, as students have to avoid conflicts in multiple periods (rather than a single period) to complete their training.

While the RC and AC training systems will never be the same, the above discussion does reinforce the idea that improving the efficiency of the RC system requires a focus on school size, specialization, support arrangements, and capacity utilization.

## RC Training Uses More Support Days Than AC Training

On average, RCTIs in Regions C and E use 72 man-days of instructor and staff support to produce 100 days of student training.[31] By comparison, a much smaller amount is required in the AC environment. On TRADOC bases in the Active Army, aggregate staffing factors indicate that it takes about 28 man-days of support to produce 100 training days.[32] While the two figures are not strictly compa-

[31]Based on data collected in RAND questionnaires.

[32]Based on estimates from the TRADOC *Cost Factor Handbook*, 1993.

rable,[33] we believe they are similar enough that citing the AC factor lends some additional perspective to the RC results that follow.

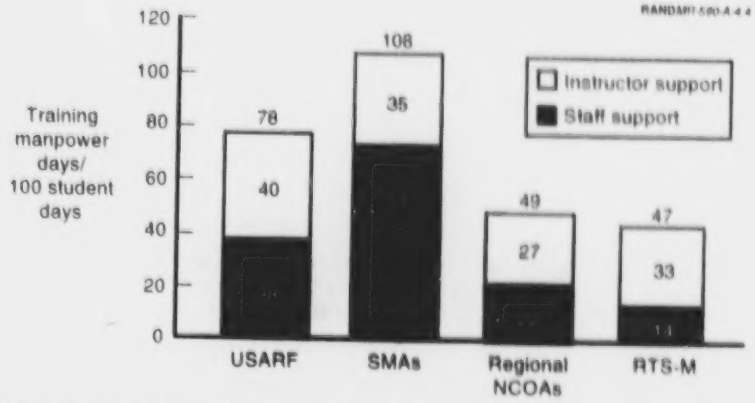
One reason for the large difference between AC and RC schools is the underutilization of training capacity in the RC school system. In Chapter Two, we showed how 33 percent or more (depending on course type) of quota allocations in the RC system went unused. If one assumes that schools planned for the quota allocation, their resources were 30 percent or more underutilized. While a distributed training system will never be able to forecast enrollments at a large number of small schools as well as a centralized system can forecast enrollments at a small number of large schools, much of the shortfall in the RC system appeared to derive from information shortfalls that impeded planning. If even half of underutilized capacity in the RC system could be filled, the RC ratio of training manpower days per student day would be 10 to 20 percent lower than that reported above.

Because of the radically different training environments, aggregate comparisons cannot determine whether AC or RC schools are more efficient in what they do. However, by examining different types of RCTI, we can more nearly hold training environment constant. Below, we compare the four types of RCTI: USARF schools, SMAs, regional NCOAs, and RTS-Ms.

## Specialized RCTIs Use Less Training Manpower per Student Day Than Multifunctional Schools

Figure 4.4, which compares the ratio of support days to student days by type of RCTI, shows that specialized RCTIs use less training manpower per student day than multifunctional schools. Regional NCOAs and RTS-Ms, which specialize in common core leadership training and CSS maintenance courses, respectively, use considerably less training manpower than USARF schools and SMAs, which are multifunctional schools designed to sponsor a wide range of

[33]For example, at least some of the man-days in the RCTI figure are dedicated to support functions (e.g., food service support, medical support) not counted in the AC figure (because, in the AC case, the installation provides those services). To provide measures with exactly the same measurement basis would require research beyond the scope of this report.




SOURCE: ATTRS; RCTI administrative reports; TAG/MUSARC administrative reports.

**Figure 4.4—Ratio of Support Days to Student Days by Type of RCTI**

courses. As a group, specialized schools use only half as many training manpower days as multifunctional schools.[34] Further, the figure shows that the wide variance in manpower usage is not explained by instructor man-days (which are relatively constant across school types); rather, the difference between multifunctional and specialized schools results from the usage of staff support man-days.

## Regional NCOAs and RTS-Ms Benefit from More Centralized and Well-Established Support Arrangements

In addition to the economies of specialization, regional NCOAs and RTS-Ms benefit from more centralized and well-established support arrangements. Table 4.6 shows that RTS-Ms are the only type of RCTI that has training equipment. All other RCTIs have to borrow virtually all required equipment, class by class, a task that is even more difficult for the multifunctional schools than for the regional

[34]The graph may even understate the difference, since the RCTI surveys suggest multifunctional schools lack sufficient manpower resources to produce the same quality of training as the specialized schools.

NCOAs because of the wider variance in courses taught. Further, the specialized schools teach a relatively continuous series of courses, almost all at home station and using primarily full-time staff, thus gaining the efficiencies of larger size, relatively fixed facilities, and established support arrangements.

The multifunctional schools incur the much greater workload of arranging for base support, equipment, supplies, and ammunition at multiple bases, sometimes hundreds of miles from the school's home station, and sometimes with considerable changeover from year to year. The borrowing of equipment and the supporting of multiple training locations translate into a greater workload for both staff and instructors of multifunctional schools, driving up the ratio of training support days per student day.

## SMAs Have a High Training Manpower Days per Student Day Ratio

As shown earlier in Figure 4.4, SMAs use an estimated 108 training manpower days to produce 100 student days of training. Part of the reason for this high ratio is mission complexity—the wide range of courses they teach and the dual IDT/AT mission. Another reason

**Table 4.6**

**School Characteristics by Type of School**

| Characteristic | RTS-M | Regional NCOAs | SMAs | USARF |
|---|---|---|---|---|
| Mission complexity | | | | |
| Range of courses | Specialized | Specialized | Multi-functional | Multi-functional |
| IDT/AT split | 6% IDT | 0% IDT | 25% IDT | 25% IDT |
| Support requirements | | | | |
| Own equipment | Yes | No | No | No |
| Home location | 87% | 100% | 79% | 34% |
| School size | | | | |
| FTE training manpower | 22 | 54 | 24 | 25 |
| Student days/school | 11,900 | 28,500 | 5,700 | 8,400 |

SOURCE: ATTRS, RCTI administrative reports.

clearly relates to the difficulty of their mission; for example, they teach nearly the entire technical side (DMOSQ and NCOES Phase II courses) of the CA mission, which accounts for 20 percent of their course load.

However, another reason for their high training manpower usage appears to be the extent that they rely on temporary short-term help. SMAs, unlike any other RCTI, obtain over a third of their manpower by importing personnel on a short-term basis from nonschool units. Borrowing some[35] and paying for some with supplemental dollars, SMAs regularly supplement their TDA to obtain sufficient instructors and support staff. Using large amounts of temporary manpower requires substantial TDA staff coordination to find, orient, and sometimes (in the case of personnel coming to instruct) teach the new staff, but unless they are able to obtain the same staff in multiple years, they get relatively little for their investment.

## Low-Organic SMAs Use More Training Than High-Organic Ones

Because there was a large variation in the propensity of SMAs to import nonorganic staff, we were able to divide SMAs into ones that rely more heavily on organic manpower and those that rely on nonorganic manpower. This allowed us to hold "mission" relatively constant to examine the effect of importing nonorganic staff. Table 4.7 shows that the "low-organic" schools (which use less than 50 percent

**Table 4.7**

**High Organic Versus Low Organic Staff in SMAs (man-days)**

| Level of Organic Manpower | Instructor Support | Staff Support | Total |
|---|---|---|---|
| High (70%) | 33 | 60 | 93 |
| Low (49%) | 36 | 85 | 121 |

SOURCE: ATTRS; RCTI administrative reports; TAG/MUSARC.

[35]Some of the borrowed support manpower is not required by the SMAs for training. Rather, the schools accept some people who missed training with their unit but still need an AT.

organic manpower) used significantly more training manpower days per student day than did the "high-organic" schools (which used 70 percent organic manpower). While SMAs using a high proportion of organic manpower used an average of 93 staff support man-days per 100 student days, the SMAs using a low proportion of organic manpower used an average of 30 percent more (121 man-days).

## Conclusions About Efficiency

Further analysis would be required to allow definitive statements about relative school efficiency. However, the present descriptive analysis does suggest tentative conclusions and recommendations. First, RCTI efficiency would substantially improve with increased utilization of the training capacity they already have. Better management of training requirements and of matching personnel needing the training to the RCTIs that can train them will lead to larger class sizes, and larger ATs, both efficient means of increasing student output.

Second, increasing school specialization and consolidating the number of schools holds high promise for increasing efficiency in the training system. While managing schools responsible for larger training areas will clearly require more TDY for staff travel, our data suggest that even a tenfold increase in TDY budgets might be offset by greater savings in training manpower.[36] Further, our small sample of courses suggests that regional centralization of courses will not result in substantially higher travel costs for students traveling to AT. Data from our student questionnaire show that students already travel a large distance to ATs, 550 miles on average, with no more distance traveled for courses taught in multifunctional schools than in specialized schools. Apparently, the timing of a course is more important than the travel cost involved.

Finally, the data suggest that RCTI efficiency can be enhanced by a high percentage of organic school manning, a greater percentage of fixed facilities (or at least fewer training sites with more established

[36]RCTIs currently expend an average of about $10,000 in TDY. A tenfold increase would mean an additional $90,000, less than the value of three full-time staff, or about 10 percent of school manpower.

support relationships), and more assignment of equipment and training aids to schools. However, an analysis that examines how school efficiency varies in relation to these various factors would be required to establish the relative contributions of these various school characteristics.

Chapter Five

# IMPLICATIONS

In this final chapter we draw on our characterization of conditions and problems in RCTIs and discuss their implications for managing the overall system providing individual training to RC soldiers and for adjusting the prototype TASS as it evolves.

## SYSTEMIC PROBLEMS AFFECTING THE RC SCHOOL SYSTEM

The results of our assessment attest to persistent problems in the RC school system, many of which are structural and widespread, affecting RCTIs inside and outside the scope of the TASS prototype. As indicated in our analysis of training requirements and school delivery of courses, the training system does not (and indeed cannot) offer training to all the soldiers who need it. A key point, however, is that the full capacity of the system falls short of the overall training requirement, particularly for reclassification training. In addition, when training is offered, the capacity of the system is not fully utilized.

As our analysis of quality of training indicates, RC training institutions face challenges not of their own making. A fundamental quality problem, for instance, lies with the availability and adequacy of the courseware and programs of instruction. In addition, some courses lack equipment, ammunition, and training aids, especially in IDT. And RCTIs report shortages of instructors to deliver needed courses.

Finally, our data on training resources dispel some commonly held assumptions about RC training—for example, that significant dollar

savings are achievable through reorganization. In other areas, our findings confirm and quantify common assumptions—for example, that inefficiencies exist in how schools are staffed and organized (e.g., in multifunctional as opposed to specialized schools). Again, however, these problems are systemic in nature, deriving from current practices for funding and managing RC training resources, including the extensive borrowing of manpower and equipment, the enormous coordination functions, and the difficulty of overseeing total resources.

## PROBLEMS THE PROTOTYPE CAN ADDRESS

The prototype regional school system implemented in FY94 in the southeastern United States is poised to address some of these problems. It may not be as well postured to deal with other problems, particularly those that are systemic and that lie outside traditional boundaries characterizing the current training system. Hence, some problems may be solved by broadening the system's focus as it continues to evolve; others will require decisions and actions that fall beyond the current training system.

FY94 was the "implementation year" for the prototype school system. Its most observable effect was the reorganization from the old system of separate, multifunctional RCTIs in the ARNG and the USAR to a more integrated and specialized system of schools, with coordinated management among the CONUSA, regional RC commands, and TRADOC's Regional Coordinating Element (RCE). At the same time, steps were taken to improve quality assurance, by functionally aligning school organizations with TRADOC proponent schools and by intensifying programs to accredit schools and certify instructors.

These steps increase the potential for greater efficiency and improved training quality. The restructuring has allowed for efficiencies by consolidating 24 existing RCTIs into 6 functionally aligned school brigades,[1] accompanied by a change in schools' missions from multifunctional to specialized. Each brigade, in turn, is the responsibility of a specific RC, with the ARNG responsible for the CA and Leadership Brigade and the USAR responsible for four brigades

[1] U.S. Army Training and Doctrine Command (1993).

(CS, CSS, Officer Education, and Health Services). Moreover, the USAR transferred its schools' command and control from Army Reserve Commands to training divisions. This realigns training responsibilities under one umbrella consisting of both IET and schools' missions.

These steps can be expected to improve efficiency, especially if the consolidation and specialization can be combined with increased throughput, a reduction of support requirements, and the realization of scale economies. However, our resource and cost analysis indicates that the prototype should not be expected to provide significant manpower or dollar cost savings. While the new organization could potentially allow the maintenance of existing output with less but more efficient training manpower, the number of school TDA spaces were no fewer in FY94 than before the prototype began. Moreover, significant dollar savings would not be available in any case, since RC training is largely personnel-driven, with only a fraction of the funding derived from supplementary dollar-funded sources. Instead, the prototype has the potential to provide "more bang for the buck" by training more soldiers at a higher level of quality for a given level of resources.

In the quality area, the prototype provides for the participation of the respective proponent school, thereby gaining AC oversight and expertise. Its quality assurance activities should help ensure that training conducted in RCTIs is consistent and meets established standards. Also, the new coordination functions should help in providing necessary training support (i.e., equipment, training aids, and facilities) for IDT and AT instruction.

## REMAINING PROBLEMS AND POTENTIAL MEANS TO ADDRESS THEM

The prototype as currently organized is not equipped to address all the problems identified in this baseline assessment. Below we identify several problems that currently lie outside the scope of the prototype, as well as some potential means to address them.

## Getting More (Right) Students to School

The capacity of RCTIs (measured as quota allocations) was not utilized as efficiently as it might have been in FY94. For example, for reclassification training courses conducted in RCTIs, nearly 18 percent of the seats initially offered were subsequently lost because of nonconducted or canceled classes; by the time training was held, 19 percent of the remaining seats were unfilled. More capacity was lost in the MOS-specific portion of NCOES (BNCOC and ANCOC Phase 2 courses)—here, 16 percent of the quota allocations are lost because of canceled or nonconducted classes, and 24 percent of the remaining training seats were unfilled.[2]

**Potential means to address problem.** An important part of the solution involves expanded utilization and support for ATRRS, as part of the prototype's routine operating procedures, to ensure that more quota allocations are filled and fewer classes are canceled. As increased emphasis is brought to bear on this problem, other measures may be required to improve the usefulness of ATRRS (e.g., allowing overbooking; providing greater visibility over student locations to support IDT planning).

Also, additional steps could be taken to ensure that the "right" soldiers are scheduled for training and that soldiers holding reservations are delivered to school (e.g., providing financial incentives or penalties for units to ensure soldiers attend when scheduled).[3] An important option for getting the right people to school is to fully implement the personnel policy called "select, train, promote" in both the USAR and the ARNG.[4] Another option, which recognizes that the

[2]Classes may also be canceled or nonconducted because of lack of instructors or equipment. Hence, activities that make it more or less difficult to obtain these resources will also affect the number of quota allocations lost in this manner.

[3]According to RAND's Bold Shift study, "many constraints may preclude school attendance for an RC soldier. For example, a soldier may have a conflict between the time a school seat is available and the demands of his civilian job or family obligations" (Sortor et al., 1994, p. 38). Regardless of the reasons, scheduling of or getting soldiers into school is a problem.

[4]This policy states that only soldiers selected for promotion should be scheduled for training courses required for the next-higher grade. Implementation of this policy can help eliminate "unnecessary" training and might permit a reduction in the number of quotas allocated for NCOES training. If overall allocations are to be reduced, however,

RC training system does not have enough allocations to accommodate its full training requirement, is to whittle down the size of the requirement by setting priorities for training and see that these are met. This could include favoring high-priority units and focusing efforts on improving DMOSQ in specific MOSs and skills where shortages are most acute or wartime criticality is highest, coupled with post-mobilization readiness remediation plans for increasing DMOSQ in the lower-priority skill areas.

Beyond these steps, however, a fundamental problem for the RC, which impedes any attempt to improve school capacity utilization, is the turbulent environment that degrades the stability of their personnel structure. Attrition and turnover from downsizing, doctrinal changes, promotion opportunities, prior-service reclassifications, and unit conversions adversely affect the RC's ability to make headway against their training requirements. Past and ongoing RAND research suggests that considerable leverage for improving personnel readiness could be obtained by reducing attrition and turnover (e.g., through stabilization of RC units and the addition of financial incentives to encourage soldiers to stay in their jobs).[5] Such incentives, if successful, could prove to be an overriding influence not only for enhancing personnel readiness and deployability but also for constraining the demands on the total Army school system.

## Investing to Maintain Courseware Quality and Improve Its Distribution

In response to RAND questionnaires, RCTI staff and instructors noted greater problems with availability and adequacy of POIs and courseware than with other elements of course quality. For example, in terms of availability, 38 percent of instructors cited courseware as incomplete, and 31 percent of RCTIs reported that course material was not received on time. In terms of adequacy, 45 percent of RCTIs saw problems with the currentness of POIs, while among instructors, 33 percent reported that student materials were not adequate.

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the Army will also need to develop strategies for handling the backlog of NCOs who have been promoted but still need to complete NCOES courses.

[5]See, for example, Orvis et al. (1996), Sortor et al. (1994), and Buddin and Grissmer (1994).

**Potential means to address problem.** Addressing this problem is fundamental to ensure training quality. Current plans call for rapid development of Total Army training system courseware and for AC soldiers to be assigned to support RC training and help develop this courseware.[6] However, the quantity of needed material is very large (well over 400 courses at last count) and may overwhelm available resources. In addition, though POIs may be updated and standardized, their design should recognize the constraints of time and organization RC schools and soldiers face (i.e., with training divided between IDT and AT within an overall limit of 39 training days per year). Revisions of courseware to meet such constraints will need to address, for example, whether material is taught most appropriately in IDT or AT phases, the amount of time needed to become qualified, and the amount of self-study that may be required. Finally, for the availability of courseware to improve, the system for distributing POIs, courseware, instructor, student, and reference materials could be modernized to make it more responsive and efficient (e.g., through substitution of electronic media and distribution channels for paper and physical transport methods).

## Recruiting and Training Qualified Instructors

Of 44 RCTIs surveyed in Regions C and E in FY94, 29 percent described problems with locating and qualifying sufficient RCTI instructors. A smaller number of schools reported problems with the quality and performance of on-hand instructors. These findings are backed up by RAND visits and observations.

Each component has a different kind of problem in this area. The ARNG extensively employs short-term help. This contributes to less efficiency in the school because of the coordination time required to find and train a continually changing cadre of instructors. The USAR faces an additional obstacle because instructor grade standards are being reduced from E-8/E-7 to E-7/E-6, which could negatively impact retention of instructors.

[6]These personnel are to be made available as part of so-called Title XI legislation. For details, see U.S. Army Training and Doctrine Command (1994).

Policies governing instructor certification and recertification may further aggravate this situation. Currently, the standards governing instructor qualifications are not uniform across various functional areas. In some cases, these standards continue to be raised, increasing time and resource requirements to certify and recertify instructors. As resources supporting instructor preparation continue to be pressured, it may become even harder to recruit and qualify instructors for the training planned and needed if standards are extended beyond the limit of feasibility.

**Potential means to address problem.** To encourage the training of new instructors in sufficient numbers, qualification regulations and standards could be consistent as possible across different functional areas. The stringency of these standards could also be balanced against availability of time and resources for training new instructors. To encourage retention of existing instructors, grade standards could be reduced or the time to transition could be extended to better permit new instructors to be identified and trained. Finally, instructor management could be significantly enhanced through new mechanisms for identifying and keeping track of RC soldiers who meet instructor standards (e.g., a centralized instructor registry showing name, address, earned MOS, and teaching credentials). Such registry could be designed in such a way as to permit users to identify potential instructors for specific courses.

## Managing and Supporting IDT

Results of the RCTI surveys reveal shortfalls in training support, particularly (though not exclusively) in IDT. Instructors rate equipment and ammunition as least adequate, followed by references and training aids, supplies, administrative support, and facilities. Responses from RCTI staff amplify these problems. In addition, when we look at problems by type of school, we see that USARF schools—with their more varying course offerings, more dispersed sites, and smaller class sizes—report much greater difficulty in all support areas; specifically, they reported equipment as a greater problem than did other schools.

In the best of cases, equipment and administrative support to IDT is problematic. In the prototype school system under functional alignment, the dispersion of IDT locations may increase, and, in cer-

tain cases, the span of control within a school brigade may widen (relative to the previous multifunctional school). Moreover, pressures to reduce travel costs may affect schools' ability to manage the IDT classes.[7]

**Potential means to address problem.** New procedures for identifying and providing equipment, ammunition, and training devices for IDT could be developed and implemented as part of the prototype's operating procedures. Such procedures could be modeled after the existing FORSCOM procedure for arranging equipment support for annual training.[8] For such training support to be effective, however, the needed elements of training support should be available, particularly for USAR schools. Hence, support arrangements may need to be strengthened between schoolhouses and equipment sites or operational units.

## Achieving the Right Amount and Mix of Training Manpower

Analysis of efficiency (defined in Chapter Four as training man-days per student days of output) shows considerable variability from school to school, depending on school size, number and type of missions, and amount of organic assets (personnel, equipment, and facilities). While specialization is likely to improve school efficiency, school workloads are still likely to differ by branch, number and type of courses, and size of trainee populations. Currently, there are no standards relating an RCTI's workload to its staffing requirements. In the absence of such standards and oversight of all sources of training manpower, it is difficult to determine the amount and type of manpower needed—for example, the most efficient mix of training to support manpower or the most efficient mix of organic and nonorganic personnel in a given school battalion.

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[7]On the other hand, other options may exist for improving the management and oversight of IDT, including some increased centralization and consolidation of IDT training. Also, although certain costs may increase (e.g., TDY), this could be offset by other efficiencies under functional alignment.

[8]As discussed in the previous section, FORSCOM Form 156-R is used to identify equipment required for AT and to document where each item will come from prior to the beginning of the course.

**Potential means to address problem.** The size and composition of school staffs for each battalion and brigade in each TASS region still needs to be determined, encompassing the nature and type of personnel (full-time versus part-time, civilian versus military, for example), as well as the funding needed for training and support manpower. To make this determination, standards should be developed and translated into customized and flexible TDAs for each brigade and battalion in each TASS region.

## Tracking Training System Resources

As noted in previous studies,[9] the total cost of operating RC schools cannot be readily determined and, therefore, links cannot be made between requirements, resources, quality, and efficiency. Because the management of training resources is fragmentary and lacks integration, tracking training resources is a problem. While some funding categories are closely managed (e.g., TDA manning at schools), others have little visibility at the school level (e.g., training funded with unit training dollars). Visibility over total resources is declining as the availability of supplementary (ADT/ADSW) funds is decreasing and the use of unit training (AT/IDT) funds is increasing, since the latter source of funds are not tracked as closely as the former.

**Potential means to address problem.** A new, integrated resource management and tracking system is needed that (1) makes total resources and costs more visible (e.g., the pay status of training manpower and students), (2) collects information using comparable categories and definitions across components, and (3) allows for cross-component exchange of funds. One possibility would be to create a unique management decision package (MDEP) for RC school training, which could improve visibility and provide for more effective management. At a minimum, an information system is needed that records, at the brigade level of detail, the total amount of manpower used for training, by source and function.

[9]See, for example, DAIG (1993).

## Integrating AC and RC Training Systems

TASS reorganization initiatives address primarily the management and use of manpower, equipment, and facilities as dedicated to the training of RC soldiers in RC schools. AC participation involves primarily the dedication of manpower and resources to oversight, coordination, and training quality assurance and improvement in the RC system. To achieve the initial goal of a "fully integrated training system," plans and programs are needed that provide for additional restructuring of training activities and reallocations of training resources and responsibilities across the components.

**Potential means to address problem.** One possible way to increase integration is to bring together AC and RC training infrastructure (manpower, equipment, facilities) and combine these assets to support the training of AC and RC soldiers in the most cost-effective way from a total Army perspective (e.g., by augmenting training manpower, leveraging facilities, and sharing equipment in ways that are different from current ways of conducting training to improve efficiency). For example, some courses might be taught more efficiently at AC schools or concentrated training sites (e.g., long, specialized, and equipment-intensive courses). Other courses could be taught efficiently in dispersed locations, including both AC and RC training sites. Moreover, AC and RC training manpower might augment each other where this can maximize trainee throughput and achieve economies of scale in delivering and supporting training. Such "new ways of doing business" should be identified and considered. An analytical model that simultaneously considers a range of options and their associated resources and outputs will be helpful for determining how to use total infrastructure in the wisest way.

Appendix

# EXAMPLE SURVEY INSTRUMENTS

As discussed in Chapters One, Three, and Four, RAND-designed survey instruments were used to gather much of the quality and resource and cost data needed from instructors and students. This appendix provides some examples of data collected in the survey instruments.

Tables A.1 and A.2 show the instruments used to collect assessments of training quality from RCTI managers and instructors. Using these forms, researchers collected the information summarized in Tables 3.3 and 3.4 in Chapter Three.

Tables A.3, A.4, A.5, and A.6 show examples of forms used to collect the resource and cost data shown in Chapter Four.

**Table A.1**

**FY94 Training Problems in General**

Q1. Below is a list of potential problems that your school may have experienced in providing effective FY94 IDT and AT instruction to students. For each one listed, please indicate if, IN GENERAL, it was not a problem, a minor problem, a moderate problem or a severe problem for the IDT and AT courses your school executed during FY 1994.

a. Course Management Plans/POI, were not complete enough for the school to plan and coordinate training ..... 1 2 3 4

b. Instructors Guides were not complete enough for instructors to plan and execute training ..... 1 2 3 4

c. Course materials were outdated (Course Management Plan/POI, instructor and student guides, etc.) ..... 1 2 3 4

d. Course materials were of poor quality ..... 1 2 3 4

e. Course material was received too late to effectively prepare for instruction ..... 1 2 3 4

f. School did not have access to proper equipment ..... 1 2 3 4

g. School did not have sufficient training aids (Overhead projectors, VCRs, computers, etc.) ..... 1 2 3 4

h. School did not have access to sufficient ammunition . . . . . 1 2 3 4

i. School did not have access to adequate facilities or training areas . . . . . 1 2 3 4

j. School did not have enough qualified instructors . . . . . 1 2 3 4

k. Instructors were not sufficiently knowledgeable to present quality instruction . . . . . 1 2 3 4

l. School did not have sufficient sized staff (full or part-time) to plan, coordinate, prepare and monitor training . . . . . 1 2 3 4

m. School did not have access to enough funding (mandays or travel) for instruction or staff . . . . . 1 2 3 4

n. Insufficient number of students to hold course . . . . . 1 2 3 4

o. Other problem (Specify: _____ ) 2 3 4

p. Other problem (Specify: _____ ) 2 3 4

q. Other problem (Specify: _____ ) 2 3 4

**Table A.2**

**ADT/Phase 2 Training Courses (MOS, NCOES, OES)**

The following questions ask your experiences with **ADT/Phase 2 Training Courses**. If you did not teach an ADT/Phase 2 MOS, NCOES or OES course this year, check this box and skip to instructions on the last page .

**Answer these questions only for MOS Reclassification Courses, NCOES or OES. ADT/Phase 2 courses refer to all courses designed to be taught over a two week or longer period during AT or ADT periods.**

38. Which ADT/Phase 2 MOS, NCOES or OES course did you teach most often this year? (If you taught more than one course an equal number of times this year, please answer these questions about the course you taught most recently.)

Course _____

39. How many times did you teach this course between 1 Oct. 1993 and 1 Oct. 1994?

Number of times taught: _____

**Please answer Q40 about the ADT/Phase 2 MOS, NCOES, or OES course you listed in Q38.**

40. How would you rate the adequacy of the course materials and POI of this ADT/Phase 2 course in the following areas?

| | *(Circle One For Each Item)* | | | |
|---|---|---|---|---|
| | Very Adequate | Somewhat Adequate | Somewhat Inadequate | Very Inadequate |
| a. Contains the tasks most needed for the student to perform wartime duties associated with the course objectives (e.g., BNCOC course trains the student to be a squad leader in the unit) . . . . . | 1 | 2 | 3 | 4 |
| b. Is up to date with current doctrine and equipment . . . . . | 1 | 2 | 3 | 4 |
| c. Contains sufficient material for the instructor to prepare for the instruction (e.g., instructor notes, references and reference material etc.) . . . . . | 1 | 2 | 3 | 4 |
| d. Contains sufficient training materials (e.g., student materials and handouts, vugraphs etc.) . . . . . | 1 | 2 | 3 | 4 |
| e. Has test materials that effectively require students to demonstrate proficiency on the most important knowledges required by the course . . . . . | 1 | 2 | 3 | 4 |
| f. Course material is complete (contains all the necessary items) . . . . . | 1 | 2 | 3 | 4 |
| g. Has sufficient course material (contains enough material for all the students I was assigned) . . . | 1 | 2 | 3 | 4 |

**ADT/Phase 2 Course:**

43. How would you describe the support you received in the following area for the ADT/Phase 2 MOS, NCOES, or OES course that you taught most often this year?

*(Circle One For Each Item)*

| | Fully Sufficient: Met the POI Requirements | Somewhat Sufficient: Did not meet the POI requirements but effective instruction was still possible | Somewhat Insufficient: Did not meet the POI requirements and seriously degraded my ability to teach the POI | Insufficient: Precluded effective teaching |
|---|---|---|---|---|
| a. Adequacy of facilities (e.g., classrooms, work areas, etc. . . . . | 1 | 2 | 3 | 4 |
| b. Availability of references (e.g., soldiers manuals, field manuals, technical manuals, etc. . . . . | 1 | 2 | 3 | 4 |
| c. Availability of training aids such as overhead projectors, VCRs, computers, and other equipment not found on unit TOE for this course . . . . . | 1 | 2 | 3 | 4 |
| d. Availability of unit equipment (e.g., equipment not found on unit TOE) . . . . | 1 | 2 | 3 | 4 |

| | | | | |
|---|---|---|---|---|
| e. Availability of ammunition required by the POI for this course . . . . . | 1 | 2 | 3 | 4 |
| f. Adequacy of general supply support (e.g., POL, paper, and other such items) . . . . | 1 | 2 | 3 | 4 |
| g. Adequacy of general administrative support you received for this course during ADT. This includes support for pay, personnel actions, reproductions, and other such items. . . . . | 1 | 2 | 3 | 4 |

## Table A.3

## FY94 School Staff and Lent Manpower

1. Please indicate the total number of personnel assigned to (provisional or actual) TDA positions in your school during FY94. _____

2. Please show the distribution of the total number of personnel listed in Q1 among the 10 staff categories listed below. In addition, indicate the amount of time those school personnel were "lent" to other units during FY94, in IDT, AT, additional ADT/ADSW, or full-time pay status.

| Staff Category | | Number of Personnel Assigned to School in FY94[a] | Amount of School Staff Time Lent to Other Units[b] | | | |
|---|---|---|---|---|---|---|
| | | | # IDT (Utas) | # AT (Days) | # Additional ADT/ADSW (Days) | AGR (Days) |
| Part-Time Military | Officer-Instructor | | | | | |
| | Officer-Staff | | | | | |
| | Enlisted-Instructor | | | | | |
| | Enlisted-Staff | | | | | |
| Full-Time Military | Officer-Instructor | | | | | |
| | Officer-Staff | | | | | |
| | Enlisted-Instructor | | | | | |
| | Enlisted-Staff | | | | | |
| Civilian | Technician | | | | | |
| | Other Civilian | | | | | |

[a]Technicians should be listed twice—once in their civilian status, and again in their part-time military status.

[b]People are "lent" if they support courses not accredited to their assigned school or if they perform work not associated with their school; however, do not consider any courses listed in Table 2.2a–d. If actual number of "lent" mandays is not known, please estimate and indicate basis for estimate under the comments section at the bottom of this table.

COMMENTS: _____

_____

_____

**Table A.4**

**FY94 Student Sign-In Sheet**

School: _____ Course/Class: _____ AT Date: _____

Enter number of students who started this class: _____

| # | Name(Print) | Rank | Component (Check One Box) | | | Home Residence | | Miles To Class | Pay Status (Check One Box) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Reserves | Guard | Actives | State | Zip Code | | AT | ADT | Unpaid | Full-time |
| 1. | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | |
| 15. | | | | | | | | | | | | |

COMMENTS: _____

_____

## Table A.5

## FY94 List of Instructors and Support Staff

School: _____

Course/Class: _____ AT Date: _____

INSTRUCTIONS: Fill in one line of information (A–L) for each instructor and other staff who supported this class during FY94 AT. See instructions on preceding page and use codes at the bottom of this page.

| | (A) | (B) | | (C) | | | (D) | |
|---|---|---|---|---|---|---|---|---|
| | | Position | | Component | | | Home Residence | |
| | Name(Print) | Civilian: GS Level | Military: Rank | Reserves | Guard | AC | State | Zip Code |
| 1. | | | | | | | | |
| 2. | | | | | | | | |
| 3. | | | | | | | | |
| 4. | | | | | | | | |
| 5. | | | | | | | | |
| 6. | | | | | | | | |
| 7. | | | | | | | | |
| 8. | | | | | | | | |
| 9. | | | | | | | | |
| 10. | | | | | | | | |
| 11. | | | | | | | | |
| 12. | | | | | | | | |
| 13. | | | | | | | | |
| 14. | | | | | | | | |
| 15. | | | | | | | | |

USE THE FOLLOWING CODES:

**Column J: Source Of Borrowed Staff**

1 = AC
2 = Reserve - Another RCTI
3 = Reserve - Another unit
4 = Guard - Another RCTI
5 = Guard - Another unit
6 = IRR
7 = Other - Please describe on back of this form

**Column K: Pay Status**

1 = IDT
2 = AT
3 = ADSW/ADT
4 = Full-time
5 = Unpaid

| (E) | (F) | (G) | (H) | (I) | | (J) | (K) | (L) |
|---|---|---|---|---|---|---|---|---|
| | | | | Was Person: | | | | |
| Miles To Class | # Support Days | Total AT Days | # Other Classes Supported | From This School | Borrowed | Source If Borrowed | Pay Status | Function |
| | | | | | | | | |
| | | | | | | | | |
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**Column L: Primary Function**

1 = Operations and training - Instructor
2 = Operations and training - Other
3 = Administration - Medical support
4 = Administration - Other
5 = Logistics - Equipment maintenance
6 = Logistics - Food service
7 = Logistics - Relocate equipment
8 = Logistics - Other
9 = Other - Please describe on back of this form

**Table A.6**

**TAG Institutional Training Cost Report: Phase II (Fall 1994)**

## RESOURCE AND COST DATA

TAG Name: _____

POC Name: _____

POC Address: _____

Commercial Phone: ( ) _____

Fax: ( ) _____

## SPECIAL INSTRUCTIONS

1. In the space at the top of this page, please list the name, address, phone and fax number for the primary point of contact at your agency who is responsible for completing this TAG Institutional Training Cost Report. Note that because these figures may require input from various offices within the TAG, we have also asked for a POC for each section.
2. This survey asks you to provide resource and cost data concerning the support of schools and students under your jurisdiction. Schools of interest include State Guard Academies, Regional NCO Academies, and RTS-Maintenance schools.
3. The information requested can be divided into 3 parts.
   - The first part deals with the ***cost to support individual schools*** in FY94, and is contained in Tables 1 and 2 below.
   - The second part deals with the ***cost to support soldiers attending schools*** in FY94, and is contained in Table 3 below.
   - Finally, the third part asks for ***your resource expenditures in direct support of the new prototype school system*** in the southeast, and is contained in Table 4. Only Region C organizations will be asked for this information.
4. Obtaining these figures may require input from various offices within the TAG. Please obtain that input wherever required.
5. Whenever you determine it beneficial to insure proper interpretation of the information provided, please include attachments that provide necessary explanation or show additional numerical detail. Alternatively, please feel free to call us to discuss your input at the number listed below.
6. If you have any questions concerning this request, please call MARILYN YOKOTA, PROJECT ADMINISTRATOR, RAND, 1700 MAIN STREET, SANTA MONICA, CA 90407, (310) 393-0411, EXT. 6369. We will get back to you quickly to answer any questions and to further discuss the details of the request.

## Table 1: FY94 Personnel-Related Expenditures in Support of Schools

POC Name for Table 1: _____

Commercial Phone: (  ) _____

### INSTRUCTIONS

Please answer the questions on the next page. If more explanation is required refer to the "special instructions" below. If you still have questions or require clarification, please do not hesitate to call us at the number below.

### SPECIAL INSTRUCTIONS

**Cost Categories (rows):**

- We have intentionally left off some personnel cost categories (i.e. the cost of IDT and full time employees) because we expect to obtain the information from other sources.
- The personnel cost categories in Table 1 can be directly related to Army Management Structure (AMS) codes used in Army accounting processes. "Annual training" expenditures come from "3A" accounts in the Army Reserve and "1A" accounts in the Army National Guard. "School support" is typically funded under "4G" accounts in the Army Reserve and "2F" accounts in the Army National Guard. "Training of School Staff" can be funded under "4F" accounts in the Army Reserve and "2F" accounts in the Army National Guard, but may also be funded under other accounts.

**Codes and Cost (columns):**

- **TDC code**: Type Duty Code used in Army accounting processes.
- **AMSCO**: Army Management Structure Code used in Army Accounting processes.
- **School Code**: List the code or name for each school at the top of the columns provided.
- **Total**: Please provide a total cost, even if the total cannot be accurately related to specific schools.

1. INSTRUCTIONS: Fill in the estimated personnel-related expenditures for each school under your jurisdiction. Record the school number at the top of each column. Also, fill in the TDCs and AMSCOs relevant to each expenditure. Round amounts to nearest hundred. (For further instructions and definitions, see the preceding page).

| Personnel Cost Category | TDC Code(s) | AMSCO Code(s) | Amount ($) by School in FY94 | | | | Total Cost for All Schools |
|---|---|---|---|---|---|---|---|
| | | | School Code: ____ | School Code: ____ | School Code: ____ | School Code: ____ | |
| (a) Annual Training (AT) | | | | | | | |
| (b) School Support (ADT/ADSW) | | | | | | | |
| (c) Training of School Staff | | | | | | | |
| Other: list | | | | | | | |
| Other: list | | | | | | | |

2. Next, fill in resource amounts associated with the above expenditures.

| Resource Category | Number by Days by School in FY94 | | | | Total For All Schools |
|---|---|---|---|---|---|
| | School Code: _____ | School Code: _____ | School Code: _____ | School Code: _____ | |
| Days of AT funded in (a) above | | | | | |
| Days of School support funded in (b) above | | | | | |
| Days of Staff training funded in (c) above | | | | | |

3. Now please record total school support in the previous year, **FY93**. If you provided that data in the earlier survey, you can mark "done" in place of those amounts submitted earlier.

| Personnel Cost Category | TDC Code(s) | AMSCO Code(s) | Amount ($) by School in FY93 | | | | Total Cost for All Schools |
|---|---|---|---|---|---|---|---|
| | | | School Code: ____ | School Code: ____ | School Code: ____ | School Code: ____ | |
| School Support (ADT/ADSW) | | | | | | | |

4. If combined with expenses for full time employees and IDT weekends of school staff, do you believe the above figures fairly represent the personnel-related cost of operating the above schools?

_____ Yes (Go to next page)

_____ No (please explain below; attach extra sheet if necessary)

_____

_____

_____

_____

_____

_____

_____

_____

## Table 2: FY94 O&M and Other Expenditures in Support of Schools

POC Name for Table 2: _____

Commercial Phone: ( ) _____

### INSTRUCTIONS

Please answer the questions on the next page. If more explanation is required refer to the "special instructions" below. If you still have questions or require clarification, please do not hesitate to call us at the number below.

### SPECIAL INSTRUCTIONS:

In Table 2, please list FY94 O&M and other expenditures of operating each school under your jurisdiction. Even when existing accounting systems do not allow precise determination of amounts, please estimate (and, if appropriate, describe the basis for the estimate in an attachment).

**Cost Categories (rows):**

- The number in parentheses refers to the "object class" code, part of the Standard Army Accounting Classification.
- **TDY:** refers to amounts for all unit personnel, both drilling soldiers and AGRs.
- **Supplies and Materials:** include both the total for all supplies and materials, as well as the breakdowns for SSSC, POL, repair parts, and other supplies and materials.
- **Communications**: Includes expenditures for phones, computer purchases and maintenance, copy supplies. Do not include the costs of postage and printing here, but rather in their separate categories below.
- **Postage and Printing**: Please list approximate cost, regardless of who pays bill.
- **Other Contract Services and Supplies**: For example, contracts for bus transportation, copier contract maintenance, KP contracts. If the total amount is significant, please break into components in an attachment.
- **Other leases**: For example, other leased vehicles or leases of copy machines.
- **Other training support**: For example, training aid maintenance, excess billeting costs, organizational clothing and equipment.

**Codes and Cost (columns):**

- **AMSCO**: Army Management Structure Code used in Army Accounting processes.
- **School Code**: List the code or name for each school at the top of the columns provided.
- **Total**: Please provide a total cost, even if the total cannot be accurately related to specific schools.

1. INSTRUCTIONS: Fill in the estimated expenditures for each school under your jurisdiction. Record the school number at the top of each column. Also, fill in the AMSCOs relevant to each expenditure. Round amounts to nearest hundred. (For further instructions and definitions, see above).

| Cost Category | AMSCO Code(s) | Amount ($) By School in FY94 | | | | Total Cost for All Schools |
|---|---|---|---|---|---|---|
| | | School Code: _____ | School Code: _____ | School Code: _____ | School Code: _____ | |
| Civilian pay (11–19) | | | | | | |
| TDY (21) | | | | | | |
| Supplies & materials (26): Total | | | | | | |
| (SSSC) | | | | | | |
| (POL) | | | | | | |
| (Repair parts) | | | | | | |
| (Other) | | | | | | |
| Communications (e.g., phone, PCs) | | | | | | |
| Postage | | | | | | |
| Printing | | | | | | |
| GSA leases | | | | | | |
| Other contract services and supplies (20 & 25) | | | | | | |
| Other leases (23) (e.g., copier) | | | | | | |
| Ammunition | | | | | | |
| Other training support: Attach a list | | | | | | |

2. Aside from routine expenses for installation support (e.g., for utilities and real property maintenance), do you believe the above figures fairly represent the non-personnel-related cost of operating the above schools?

_____ Yes (Go to next page)

_____ No (please explain below; attach extra sheet if necessary)

_____

_____

_____

_____

_____

_____

_____

_____

_____

## Table 3: FY94 Student Expenditures

POC Name for Table 3: _____

Commercial Phone: ( ) _____

1. INSTRUCTIONS: Estimate expenditures on your soldiers that attended schools in FY93 & FY94, regardless of school attended. List expenditures by type of course. ("Type of Course" is a classification used in Army accounting processes.) In the "AT" column, please fill out the "total" row, even if the distribution by type of course is unavailable. If you provided some of the data in the earlier survey, you can mark "done" in place of those amounts.

**FY93 & FY94 Student Expenditures ($) by Pay Status**

| | FY93 | | FY94 | |
|---|---|---|---|---|
| Type of Course | ADT | (in lieu of) AT | ADT | (in lieu of) AT |
| Initial Skill | | | | |
| Career Development | | | | |
| Refresher/ Proficiency | | | | |
| Unit Conversion | | | | |
| Vocational /Technical | | | | |
| Medical | | | | |
| Other | | | | |
| Total | | | | |

2. Please calculate (or estimate) the percentage of ADT expenditures (in the "total" row of Q1 above) supporting students attending active component schools.

FY93 _____ %

FY94 _____ %

3. Do you believe the above figures fairly represent school expenditures by pay status and type of course?

_____ Yes (Go to next page)

_____ No (please explain below; attach extra sheet if necessary)

_____

_____

_____

_____

## Table 4: Support Organization Costs for MY93 and FY94 (Region C Organizations Only)

POC Name for Table 4: _____

Commercial Phone: ( ) _____

### PURPOSE

To estimate the amount of support contributed by your organization to the establishment of the prototype school system in Region C. We are interested in an estimate of the resources required over and above normal support provided to schools. Please list the name and commercial phone number for the person who completed Table 4.

### INSTRUCTIONS

Please answer Q1–Q5 about the support that your organization provided for FY93 and FY94 to establish the prototype school system in Region C. If you already provided information in the previous survey on FY93 and part of FY94, please fill in information only for the remaining part of FY94

Q1. List the dates that apply to the information provided below:

_____ All of FY93 & FY94

_____ Only the later part of FY94, beginning _____/_____/94

Q1A. Briefly describe the nature of the support that this organization provided to establish the new school system in Region C:

_____

_____

_____

_____

_____

_____

Q2. For FY93 and FY94, estimate, by type of personnel, the total mandays of support provided by your organization to establish the new school system in Region C. These are mandays over and above normal support to schools. If a breakdown by type of personnel is not possible, make an estimate in the "total" row.

| Type of Personnel | Mandays of Support | |
|---|---|---|
| | FY93 | FY94 |
| Officer | | |
| Enlisted | | |
| Civilian | | |
| Total | | |

Q2A. How many people contributed to the mandays in Q2 above.

| | FY93 | FY94 |
|---|---|---|
| Number of Persons Involved: | ___ ___ | _____ |

Q3. List FY93 and FY94 TDY expenditures in support of establishing the prototype school system in Region C.

| Item | Amount of support | |
|---|---|---|
| | FY93 | FY94 |
| Total cost | $ | $ |
| Days of TDY | days | days |

Q4. Describe and enumerate the costs through the end of FY94 (if any) of personnel related actions necessary due to transition to the new regional school system, such as moving costs, RIF costs, early retirement costs, or manpower acquisition costs.

_____

_____

_____

_____

_____

_____

Q5. List any supplementary funds received specifically to support the new regional school system in Region C:

A. How much did you receive? _____
(If none, enter "0")

B. Who provided these funds? _____

C. What were the funds used for? _____

_____

_____

# REFERENCES


Buddin, Richard J., and David W. Grissmer, *Skill Qualification and Turbulence in the Army National Guard and Army Reserve*, Santa Monica, CA: RAND, MR-289-RA, 1994.

Department of the Army Inspector General (DAIG), *Special Assessment: National Guard Brigades' Mobilization*, Washington, D.C., 1991.

———, *Special Assessment of Reserve Component Training*, Washington, D.C., January 11, 1993.

Department of Defense, Office of the Undersecretary of Defense, Force Management and Personnel, *Military Manpower Report for FY 1993*, Washington, D.C., June 1992.

Department of Defense, Office of the Secretary of Defense (Personnel and Readiness), *Military Manpower Training Report, 1994*, 1994.

General Accounting Office, *Peacetime Training Did Not Adequately Prepare Combat Brigades for Gulf War*, Report Number GAO/NSIAD 91-263, Washington, D.C., 1991.

Orvis, Bruce R., Herbert J. Shukiar, Laurie L. McDonald, Michael G. Mattock, M. Rebecca Kilburn, and Michael G. Shanley, *Ensuring Personnel Readiness in the Army Reserve Components*, Santa Monica, CA: RAND, MR-659-A, 1996.

Sortor, Ronald E., Thomas F. Lippiatt, J. Michael Polich, and James C. Crowley, *Training Readiness in the Army Reserve Components*, Santa Monica, CA: RAND, MR-474-A, 1994.

"Test Memorandum of Agreement (MOA) among the U.S. Army, the ARNG, and the USAR," June 24, 1993.

U.S. Army Training and Doctrine Command, *Training and Organization of the U.S. Army Reserve Components*, Fort Monroe, VA: U.S. Army Training Board, 1987.

———, *Concept Plan for Organizing a Total Army Training Structure (TATS) Individual Institutional Training System*, 1993.

———, *Cost Factor Handbook*, Fort Monroe, VA: 1993.

———, *Total Army School System OPLAN-1 (Future Army Schools 21st Century)*, 1994.

Winkler, John D., Stephen J. Kirin, and John S. Uebersax, *Linking Future Training Concepts to Army Individual Training Programs*, Santa Monica, CA: RAND, R-4228-A, 1992.

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